

A COUNTYWIDE ORDINANCE OF THE BOARD OF COUNTY COMMISSIONERS OF PALM BEACH COUNTY, FLORIDA TO BE KNOWN AS THE PALM BEACH COUNTY PETROLEUM CONTAMINATION CLEANUP CRITERIA ORDINANCE; PROVIDING FOR A SHORT TITLE, APPLICABILITY AND AUTHORITY; PROVIDING FOR A PURPOSE; PROVIDING FOR DEFINITIONS; PROVIDING FOR REFERENCED GUIDELINES; PROVIDING FOR GENERAL CONDITIONS; PROVIDING FOR CONTAMINATION REPORTING; PROVIDING FOR SOURCE REMOVAL; PROVIDING FOR QUALITY ASSURANCE REQUIREMENTS; PROVIDING FOR PROFESSIONAL CERTIFICATIONS; PROVIDING FOR SITE ASSESSMENT; PROVIDING FOR FATE AND TRANSPORT MODEL REQUIREMENTS; PROVIDING FOR RISK ASSESSMENT; PROVIDING FOR NO FURTHER ACTION; PROVIDING FOR NATURAL ATTENUATION; PROVIDING FOR ACTIVE REMEDIATION; PROVIDING FOR POST ACTIVE REMEDIATION MONITORING; PROVIDING FOR TIME SCHEDULES; PROVIDING FOR NOTICES; PROVIDING FOR FORMS; PROVIDING FOR FEES; PROVIDING FOR VIOLATIONS, ENFORCEMENT, PENALTIES; PROVIDING FOR REPEAL OF LAWS IN CONFLICT; PROVIDING FOR SEVERABILITY; PROVIDING FOR INCLUSION IN THE CODE OF LAWS AND ORDINANCES; PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, Chapter 125, Florida Statutes authorizes the Board of County Commissioners to enact those regulations necessary for the health, safety and welfare of the citizens and visitors of Palm Beach County; **and**

WHEREAS, the State of Florida enacted the Petroleum Contamination Site Cleanup Criteria in 1986; **and**

WHEREAS, Palm Beach County has enforced the State Rules under contract with the Florida Department of Environmental Protection since 1988; **and**

WHEREAS, the State of Florida, through its Department of Environmental Protection, funds Palm Beach County's local Petroleum Cleanup program; **and**

WHEREAS, Palm Beach County, through its local enforcement procedures, has the ability to carefully monitor and quickly respond to petroleum contamination at the local level; **and**

WHEREAS, it is the intent and policy of the Board of County Commissioners to ensure the continued health, safety, welfare, and quality of life for the existing and future residents of Palm Beach County by protecting its valuable and critical water resources; **and**

WHEREAS, due to the sensitive nature of the drinking water supply, it is in the best interest of Palm Beach County for continued monitoring of petroleum contaminated sites; **and**

WHEREAS, the Board of County Commissioners of Palm Beach County finds that it is in the best interests of the citizens of Palm Beach County to enact a countywide ordinance for local enforcement of petroleum cleanup standards and procedures; **and**

WHEREAS, Palm Beach County intends to amend its Petroleum Storage Systems Ordinance at such time as the State amends its Rules.

1 **NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF COUNTY**
2 **COMMISSIONERS OF PALM BEACH COUNTY, FLORIDA, THAT**

3
4 **Section 1 SHORT TITLE; APPLICABILITY; AUTHORITY**

- 5
6 1.01 This Ordinance shall be known as the “Palm Beach County Petroleum Contamination
7 Cleanup Criteria Ordinance.”
8
9 1.02 The cleanup criteria contained in this Ordinance, except as described in Section 17,
10 shall apply to any cleanup of a site contaminated with petroleum or petroleum products.
11 The cleanup criteria contained in this Ordinance shall not apply to the following:
12
13 (a) Petroleum or petroleum products contaminated with significant quantities of
14 other substances;
15
16 (b) Any refined derivatives or by-products of crude oil, natural gas, or other
17 naturally occurring hydrocarbons, except those defined as petroleum products in
18 Section 376.301, F.S.; or
19
20 (c) Any discharge of petroleum or petroleum products of less than 25 gallons onto a
21 pervious surface, as long as the discharge is removed and properly treated or
22 properly disposed, or otherwise remediated, so that no contamination from the
23 discharge remains on-site.
24
25 1.03 Where a Consent Order has been entered into prior to the effective date of this
26 Ordinance for assessment and rehabilitation of a site, compliance with terms of the
27 Consent Order shall constitute compliance with the provisions of this Ordinance.
28 Nothing in this Ordinance shall preclude entry of a Consent Order for the rehabilitation
29 of a petroleum contamination site as long as the Consent Order adopts the cleanup
30 criteria of Chapter 62-770, F.A.C. or this Ordinance as the Orders for Corrective Action.
31
32 1.04 ERM will accept Final Orders issued by the Department in accordance with Chapter 62-
33 770, F.A.C., as conclusive on the propriety and sufficiency of plans, reports, or other
34 submittals.
35
36 1.05 All provisions of this Ordinance shall be effective within unincorporated and
37 incorporated Palm Beach County and following Chapter 62-770, Florida Administrative
38 Code (F.A.C.), which sets restrictions, conditions, constraints and prohibitions to help
39 protect the water resources of Palm Beach County.
40
41 1.06 This Ordinance is adopted under the authority of Article VIII, Section 1, of the Florida
42 Constitution, Chapter 125, Florida Statutes (F.S.), Sections 376.3073 and 376.317 F.S.,
43 and the Palm Beach County Charter.
44
45 1.07 This Ordinance is intended to be a supplement to existing state and federal petroleum
46 cleanup criteria regulations. Responsible parties subject to this Ordinance must still
47 comply with applicable state and federal regulations. Further, approvals received under
48 this Ordinance do not qualify as local approval required under state and/or federal rules,
49 unless the approval is expressly designated as approval for both this Ordinance and
50 another applicable state or federal rule or regulation.
51

52 **Section 2 PURPOSE**

- 53
54 2.01 The purpose of this Ordinance is to provide standards for assessment and remediation of
55 soil and/or groundwater contaminated with petroleum or petroleum products in order to
56 provide protection to Palm Beach County’s groundwater resources.
57

58 **Section 3 DEFINITIONS**

59
60 All words and phrases defined in Section 376.301, F.S., shall have the same meaning when
61 used in this Ordinance unless the context clearly indicates otherwise. The following words and
62 phrases used in this Ordinance shall, unless the context clearly indicates otherwise, have the
63 following meanings:

- 1 3.01 "Action level" means a specified concentration of a petroleum products' contaminant of
2 concern that, if exceeded during natural attenuation monitoring or post active
3 remediation monitoring, may require initiation of additional site assessment or active
4 remediation. Action levels are established during the approval process for Natural
5 Attenuation Monitoring Plans pursuant to Section 14, and Post Active Remediation
6 Monitoring Plans pursuant to Section 16, and are not equivalent to cleanup target levels.
7
- 8 3.02 "Additive effect" means a scientific principle that the toxicity that occurs as a result of
9 exposure is the sum of the toxicities of the individual chemicals to which an individual
10 is exposed.
11
- 12 3.03 "Antagonistic effect" means a scientific principle that the toxicity that occurs as a result
13 of exposure is less than the sum of the toxicities of the individual chemicals to which an
14 individual is exposed.
15
- 16 3.04 "Background concentrations" means concentrations of petroleum products'
17 contaminants of concern that are naturally occurring in the groundwater, surface water,
18 soil or sediment in the vicinity of the site.
19
- 20 3.05 "Contaminated" means the presence of petroleum or petroleum products or their
21 chemical constituents in surface water, groundwater, soil, sediment, or upon the land, in
22 quantities or concentrations that may result in exceedances of the applicable cleanup
23 target levels specified in Chapter 62-777, F.A.C., or water quality standards in Chapters
24 62-3, 62-302, 62-520 or 62-550, F.A.C., or in quantities or concentrations that may
25 result in contaminated sediment.
26
- 27 3.06 "Contaminated sediment" means sediment that is contaminated with petroleum or
28 petroleum products or their chemical constituents to the extent that contamination may
29 be harmful to human health or the environment as determined by the concentrations of
30 the petroleum or petroleum products' contaminants of concern, actual circumstances of
31 exposure, diversity studies, toxicity testing or other evidence of harmful effects, as
32 applicable. (Refer to the Development and Evaluation of Sediment Quality Assessment
33 Guidelines, Volumes 1-4, dated November 1994, for guidance on the evaluation of
34 concentrations of petroleum products' contaminants of concern and sediment quality
35 conditions.)
36
- 37 3.07 "Contaminated soil" means soil that is contaminated with petroleum or petroleum
38 products or their chemical constituents to the extent that applicable soil cleanup target
39 levels specified in Chapter 62-777, F.A.C., are exceeded.
40
- 41 3.08 "Contamination" refer to the definition for "contaminated."
42
- 43 3.09 "Department" refers to the State of Florida Department of Environmental Protection
44 (FDEP).
45
- 46 3.10 "Discharger" means the person who has dominion or control over the petroleum or
47 petroleum products at the time of the discharge into the environment.
48
- 49 3.11 "Discovery" means:
50
- 51 (a) Observance or detection of free product in boreholes, wells, open drainage
52 ditches, open excavations or trenches or on nearby surface water, or petroleum
53 or petroleum products in excess of 0.01 foot in thickness in sewer lines,
54 subsurface utility conduits or vaults, unless the product has been removed and it
55 was confirmed that a release into the environment did not occur;
56
- 57 (b) Observance of visually stained soil or odor of petroleum products resulting from
58 a discharge of used oil equal to or exceeding 25 gallons on a pervious surface;
59

- (a) Discharges of petroleum or petroleum products equal to or exceeding 25 gallons on a pervious surface;
- (b) Results of analytical test on a groundwater sample that exceed the cleanup target levels referenced in Chapter 62-777, F.A.C., Table I, groundwater criteria column; or
- (c) Results of analytical test on a soil sample that exceed the lower of the direct exposure residential cleanup target levels and leachability based on groundwater criteria cleanup target levels specified in Chapter 62-777, F.A.C., Table II.
- 3.12 "Engineering control" means a modification to a site to reduce or eliminate the potential for migration of, and exposure to, petroleum products' contaminants of concern. Examples of modifications include physical or hydraulic control measures, capping, point-of-use treatments, or slurry walls.
- 3.13 "ERM" refers to the Palm Beach County Department of Environmental Resources Management.
- 3.14 "Excessively contaminated soil" (unless laboratory results verify that the organic vapor analysis data are not relevant), means soil saturated with petroleum or petroleum products or soil that causes a total corrected hydrocarbon measurement of 500 parts per million (ppm) or higher for Gasoline Analytical Group or 50 ppm or higher for Kerosene Analytical Group. Readings shall be obtained at the site on an organic vapor analysis instrument with a flame ionization detector in the survey mode upon sampling the headspace in half-filled, eight-ounce or 16-ounce jars. Each soil sample shall be split into two jars, the two samples shall be brought to a temperature of between 20°C. (68°F.) and 32°C. (90°F.) and the readings shall be obtained five minutes thereafter. One of the readings shall be obtained with the use of an activated charcoal filter unless the unfiltered reading is non-detect. The total corrected hydrocarbon measurement shall be determined by subtracting the filtered reading from the unfiltered reading. Instruments with a photo ionization detector may be used after a determination is made of that instrument's equivalent response to an instrument with a flame ionization detector. Photo ionization detectors shall not be used in situations where humidity will interfere with the instruments' sensitivity (including periods of rain, measuring wet or moist soil). Analytical instruments shall be calibrated in accordance with the manufacturer's instructions.
- 3.15 "Free product" means petroleum or petroleum product in excess of 0.01 foot in thickness, measured at its thickest point, floating on surface water or groundwater.
- 3.16 "Gasoline Analytical Group" means aviation gasoline, gasohol, and motor gasoline or equivalent petroleum products.
- 3.17 "Groundwater" means water beneath the surface of the ground within a zone of saturation, whether or not flowing through known or definite channels.
- 3.18 "Innovative technology" means a process that has been tested and used as a treatment for contamination, but lacks an established history of full-scale use and information about its cost and how well it works sufficient to support prediction of its performance under a variety of operating conditions. An innovative technology is one that is undergoing pilot-scale treatability studies, which usually are performed in the field or the laboratory and require installation of the technology, and which provide performance, cost, and design objectives for the technology prior to full scale use.
- 3.19 "Institutional control" means a restriction on use of, or access to, a site to eliminate or minimize exposure to petroleum products' contaminants of concern. Examples of institutional controls include deed restrictions, use restrictions, or restrictive zoning.

- 1 3.20 "Kerosene Analytical Group" means diesel, Jet-A, Jet-B, JP-4, JP-5, and kerosene or
2 equivalent petroleum products.
3
- 4 3.21 "Monitoring well" means a well constructed with a surface seal and a sand filter pack in
5 accordance with accepted design practices in order to provide for the collection of
6 representative groundwater samples for laboratory analyses. Such wells may also be
7 used to detect the presence of free product or collect water-level elevation data to aid in
8 determining the direction of groundwater flow.
9
- 10 3.22 "Natural attenuation" means an approach to site rehabilitation that allows natural
11 processes to contain the spread of contamination and reduce the concentrations of
12 petroleum products' contaminants of concern in contaminated groundwater and soil.
13 Natural attenuation processes may include the following: sorption, biodegradation,
14 chemical reactions with subsurface materials, diffusion, dispersion, and volatilization.
15
- 16 3.23 "Petroleum contamination site" means any contiguous land, surface water, and
17 groundwater areas upon or into which a discharge of petroleum or petroleum products
18 has occurred or for which evidence exists that such a discharge has occurred.
19
- 20 3.24 "Petroleum products' contaminants of concern" means the contaminants listed in Table
21 A of this Ordinance and similar chemicals found in additives, provided the
22 contaminants are present as a result of a discharge of petroleum or petroleum products.
23
- 24 3.25 "Piezometer" means a permanent or temporary well that may be designed and
25 constructed without the surface sealing or sand filter pack requirements of a monitoring
26 well. This type of well is primarily used to detect the presence of free product or collect
27 water-level elevation data to aid in determining the direction of groundwater flow.
28
- 29 3.26 "Plume" means the portion of an aquifer or aquifers in which groundwater
30 contamination by petroleum products' contaminants of concern above applicable
31 cleanup target levels and background concentrations has been detected.
32
- 33 3.27 "Priority pollutant" means any compound listed in 40 CFR Part 122, Appendix D,
34 Tables II through IV.
35
- 36 3.28 "Product recovery" means the removal of free product.
37
- 38 3.29 "Quiescent sampling technique" is a sampling method for groundwater that consists of a
39 low flow purge (less than or equal to one liter per minute) and collection of samples at
40 the same low flow within six hours of purging. The purging and sampling shall be
41 performed with pumps that cause the least disturbance to the groundwater during
42 installation, use and removal (for example, bladder pumps, peristaltic or variable speed
43 submersible pumps).
44
- 45 3.30 "Real property owner" means the person that is vested with ownership, dominion, or
46 legal or rightful title to the real property.
47
- 48 3.31 "Reportable quantity" means a discharge of petroleum or petroleum products equal to or
49 exceeding 25 gallons on a pervious surface.
50
- 51 3.32 "Responsible party" means the facility owner, the facility operator or the discharger.
52
- 53 3.33 "Sediment" means the unconsolidated solid matrix occurring immediately beneath any
54 surface water body. The surface water body may be present part or all of the time.
55
- 56 3.34 "Site" refer to the definition for "petroleum contamination site."
57
- 58 3.35 "Site rehabilitation" means the assessment of site contamination and the remediation
59 activities that reduce the levels of contaminants of concern at a site through accepted
60 treatment methods to meet the cleanup target levels established for that site.

- 1 3.36 "Soil saturated with petroleum or petroleum products" means soil observed to contain
2 petroleum or petroleum products that drain from the soil when it is handled or squeezed.
3 or that create streaks of petroleum or petroleum products on excavation tools or on
4 plastic sheeting upon exposure to the soil.
5
6 3.37 "Surface water" includes rivers, lakes, streams, springs, impoundments, canals and all
7 other water upon the surface of the earth, whether contained in bounds created naturally
8 or artificially, or diffused. Stormwater and wastewater process water retention or
9 treatment facilities, and canals and trenches that are integral to such facilities, that are
10 not connected to other surface water, are not included in the definition of surface water.
11
12 3.38 "Synergistic effect" means a scientific principle that the toxicity that occurs as a result of
13 exposure is more than the sum of the toxicities of the individual chemicals to which an
14 individual is exposed.
15
16 3.39 "Temporary point of compliance" is the boundary represented by one or more
17 designated monitoring wells at which groundwater cleanup target levels may not be
18 exceeded while site rehabilitation under an approved Natural Attenuation Monitoring
19 Plan is proceeding.
20
21 3.40 "Total Volatile Organic Aromatics" means the sum of concentrations of Benzene,
22 Toluene, total Xylenes and Ethylbenzene.
23
24 3.41 "Used oil" means any lubricants for use in internal combustion engines that have been
25 refined from crude oil and, as a result of use, storage or handling, have become
26 unsuitable for their original purpose due to the presence of impurities or loss of
27 properties, but that may be suitable for further use as a fuel or are economically
28 recyclable for use as a fuel. "Used oil" shall not include any used oil that has been
29 mixed with any material that is a hazardous waste, unless the material is a hazardous
30 waste solely due to the characteristic of ignitability as defined in 40 CFR Part 261,
31 Subpart C.
32
33 3.42 "Waters" or "waters of the State" means waters as defined in Section 403.031, F.S.
34

35 **Section 4** **REFERENCED GUIDELINES**

36
37 Specific references to the guidelines listed below are made within this Ordinance. The
38 guidelines are not standards as defined in Section 403.803, F.S. Use of the guidelines is not
39 mandatory; the guidelines are included for informational purposes only.
40

- 41 4.01 Technical Report: Development of Soil Cleanup Target Levels (SCTLs) for Chapter
42 62-777, F.A.C., Final Report, dated May 26, 1999.
43
44 4.02 Development and Evaluation of Sediment Quality Assessment Guidelines, Volumes 1-
45 4, dated November 1994.
46
47 4.03 RBCA Fate and Transport Models: Compendium and Selection Guidance, dated 1999.
48

49 **Section 5** **GENERAL CONDITIONS**

- 50
51 5.01 ERM acknowledges, pursuant to Section 376.308(5), F.S., that site rehabilitation under
52 Chapter 376, F.S., cannot be compelled for a discharge that is eligible for state
53 restoration funding assistance, in advance of commitment of restoration funding in
54 accordance with a site's priority ranking or to pay for the costs of rehabilitation. Real
55 property owners of sites where active remediation or monitoring is being performed in
56 accordance with a Remedial Action Plan Approval Order, a Monitoring Only Plan
57 Approval Order or a Risk Assessment Approval Order by September 23, 1997, may
58 voluntarily elect to complete site rehabilitation using the appropriate provisions of the
59 Petroleum Contamination Site Cleanup Criteria in Florida Administrative Code that
60 were in effect on September 3, 1996, as long as the approved active remediation or

1 monitoring is continued to completion. If the option to complete the site rehabilitation
2 utilizing the provisions of Chapter 62-770 that were in effect on September 3, 1996 is
3 selected, all reports submitted to ERM shall include a statement to that effect.
4

5 5.02 None of the criteria adopted in this Ordinance shall be applied retroactively to any
6 pending reimbursement application for any program task.
7

8 5.03 Petroleum products' contaminants of concern are listed in Table A of this Ordinance.
9 Chapter 62-777, F.A.C., provides soil, surface water and groundwater cleanup target
10 levels, as well as natural attenuation default concentrations, a listing of soil properties
11 and test methods, a listing of site-specific conditions and geochemical parameters, and
12 default parameters and equations that may be used to establish alternative soil and
13 groundwater cleanup target levels for identified petroleum products' contaminants of
14 concern listed in Table A.
15

16 5.04 Cleanup target levels for petroleum products' contaminants of concern found in
17 groundwater, as specified in Chapter 62-777, F.A.C., Table I, or alternative cleanup
18 target levels that may be established pursuant to Chapter 62-770.650, F.A.C. or Section
19 13, are enforceable under this Ordinance and apply only in the rehabilitation of sites
20 contaminated with petroleum or petroleum products. Cleanup target levels for
21 petroleum products' contaminants of concern found in groundwater shall be the
22 applicable State water quality standards, except where alternative cleanup target levels
23 are established pursuant to this Ordinance. This Ordinance is not intended to create any
24 new water quality standards pursuant to Chapters 62-520 or 62-550, F.A.C.
25

26 5.05 Cleanup target levels for petroleum products' contaminants of concern found in soil, as
27 specified in Chapter 62-777, F.A.C., Table II, or alternative cleanup target levels that
28 may be established pursuant to Sections 12 or 13, are enforceable under this Ordinance
29 and apply only in the rehabilitation of sites contaminated with petroleum or petroleum
30 products. In establishing soil cleanup target levels, the methodology presented in the
31 Technical Report: Development of Soil Cleanup Target Levels (SCTLs) for Chapter
32 62-777, F.A.C., Final Report, dated May 26, 1999, was utilized. In establishing soil
33 cleanup target levels for human exposure to each petroleum products' contaminant of
34 concern found in soil, the following factors were considered: calculations using a
35 lifetime excess cancer risk level of 1.0E-6; a hazard quotient of 1 or less; and the best
36 achievable detection limits. Site-specific soil cleanup target levels may be justified
37 based on background concentrations. In establishing leachability-based soil cleanup
38 target levels for protection of the groundwater, the soil cleanup target levels shall be
39 based on the groundwater cleanup target levels or the alternative cleanup target levels
40 for groundwater established pursuant to Sections 12 or 13, as appropriate.
41

42 5.06 This Ordinance is established for the purposes of protecting the public health and the
43 environment and for determining, on a site-specific basis, the rehabilitation program
44 tasks that comprise a site rehabilitation program and the levels at which a rehabilitation
45 program task and site rehabilitation program may be deemed complete. In establishing
46 this Ordinance, risk-based corrective action principles were incorporated to the
47 maximum extent feasible, to achieve protection of human health, public safety and the
48 environment in a cost-effective manner. Therefore, this Ordinance references both
49 default cleanup target levels and a process for the derivation of site-specific alternative
50 cleanup target levels that are protective of human health, public safety and the
51 environment.
52

53 5.07 For sites where a Site Rehabilitation Completion Order was issued for every known
54 discharge prior to August 5, 1999, the cleanup target levels for petroleum products'
55 contaminants of concern shall be those that were in effect at the time of issuance of the
56 Order(s). If a subsequent discharge of petroleum or petroleum products occurs at the
57 site after issuance of the Order(s), site rehabilitation may be required under applicable
58 provisions of this Ordinance, to reduce concentrations of petroleum products'
59 contaminants of concern resulting from the subsequent discharge, to the cleanup target
60 levels specified in this Ordinance, subject to the provisions of Subsection 5.04.

5.08 Receipt of approval under this Ordinance does not relieve the responsible party from the obligation to comply with other County Ordinances or Department rules (for example, Chapters 62-701, 62-713, 62-730, 62-782 and 62-785, F.A.C.) regarding off-site disposal, relocation or treatment of contaminated media. Responsible parties are advised that other federal, state or local requirements may apply to these activities.

Section 6 CONTAMINATION REPORTING

Upon discovery of contamination (unless the contamination is the result of a previously reported discharge for which site rehabilitation completion has not been achieved or the contamination is known to be from a non-petroleum product source) or upon a discharge of petroleum or petroleum products, notification shall be submitted to ERM using the Discharge Report Form [Form Number 62-761.900(1)].

6.01 If the discharge was from a storage tank system regulated pursuant to the Petroleum Storage Systems Ordinance, the discharge must be reported by the facility owner or operator pursuant to the applicable requirements of the Petroleum Storage Systems Ordinance; or

6.02 For all other discharges of petroleum or petroleum products, the discharge must be reported within one week of discovery. The discharge must be reported by:

(a) The discharger; or

(b) The owner or operator if the discharger is unknown or if the discovery was the result of a previously unreported discharge.

Section 7 SOURCE REMOVAL

7.01 Free Product Removal and Disposal.

(a) Except for those sites described in Subsection 7.01(g) of this Ordinance, within three days of discovery of free product the responsible party shall take steps to obtain cleanup services for product recovery or initiate product recovery. Product recovery shall be performed in accordance with Subsection 7.01(b). The ERM tank compliance program must be contacted by the responsible party within 24 hours of the discovery of free product from a new discharge. If state funding assistance from the Inland Protection Trust Fund will be sought, product recovery authorized under this paragraph and in accordance with the Department's preapproval program procedures established pursuant to Section 376.30711, F.S., may only be performed for up to five days from the date of commencement of product recovery of the new discharge. If product recovery is not complete pursuant to Subsection 7.01(d) at the end of five days, or the scope of activities specified in Subsection 7.01(b) will be exceeded, the responsible party shall request written authorization for additional product recovery from ERM. The responsible party is required to complete product recovery provided that:

(1) The selected recovery method is in accordance with Subsection 7.01(b);

(2) Product recovery does not spread contamination into previously uncontaminated or less contaminated areas through untreated discharges, improper treatment, improper disposal or improper storage;

(3) Flammable products are handled in a safe manner; and

(4) All sampling and analyses are performed in accordance with Section 8.

(b) The following passive and active methods of product recovery may be implemented without requesting approval from ERM:

- (1) Absorbent pads;
- (2) Skimmer pumps that include pumps with mechanical, electrical or hand-bailed purging operations;
- (3) Hand or mechanical bailing; and
- (4) Fluid vacuum techniques (for example, vacuum pump trucks) or total fluid displacement pumps, as long as:
 - a. The technique used does not smear or spread free product or result in contaminating previously uncontaminated media; and
 - b. The volume of groundwater recovered is not greater than two times the volume of free product recovered, except that the first 1,000 gallons of the total fluid recovered per discharge are exempt from meeting the required ratio of groundwater to free product.
- (c) In addition to the recovery methods specified in Subsection 7.01(b), other product recovery methods may be evaluated, proposed and submitted by the responsible party to ERM for approval, prior to implementation. During the submittal and approval process, implementation of one or more of the collection methods specified in Subsection 7.01(b), is required. The submittal must include the results of the evaluation performed to determine the potential for product spreading or smearing, and the potential for air emissions, and a justification as to the environmental and economical benefits of the selected recovery method. The product recovery methods proposed may include:
 - (1) excavation of soil saturated with petroleum or petroleum products' contaminants of concern into or below the water table;
 - (2) dewatering or groundwater extraction that may influence the depth to the water table; or
 - (3) air/fluid extraction.
- (d) Product recovery shall be deemed complete when free product has been removed to the maximum extent practicable.
- (e) Within 10 days after initiation of product recovery, written notification shall be provided by the responsible party to ERM on Form 62-770.900(1).
- (f) Unless a different reporting period is approved under the provisions of Subsection 17.05, an annual status report documenting the recovery progress and summarizing all recovery activities shall be submitted by the responsible party to ERM for review.
- (g) At petroleum contamination sites eligible for state funding assistance under the Inland Protection Trust Fund where the discharge occurred prior to March 29, 1995, product recovery shall commence in accordance with the ranking established pursuant to Chapter 62-771, F.A.C., and shall be performed in accordance with Subsections 7.01(b) and (c), and pursuant to Section 376.30711, F.S.

7.02 Soil Removal, Treatment and Disposal.

- (a) If contaminated soil exists at a site, excavation of contaminated soil for proper treatment or proper disposal may be performed. Consistent with the goals set forth in Section 403.061(34), F.S., ERM encourages treatment over disposal options to address contaminated soil. Treatment or disposal of contaminated soil may be

performed prior to ERM approval of a Remedial Action Plan submitted under Section 15, provided the following criteria are met:

- (1) Contamination is not spread into previously uncontaminated or less contaminated areas through untreated discharges, improper treatment, improper disposal or improper storage;
 - (2) Flammable products are handled in a safe manner;
 - (3) When a soil vacuum extraction system is necessary to abate an imminent threat to human life, health, safety or welfare within a structure or utility conduit, then the vacuum extraction system must be designed and operated only to abate the imminent threat. ERM must be notified, within 24 hours, of the imminent threat and the intent to use a soil vacuum extraction system. The air emissions monitoring and frequency of monitoring shall be performed in accordance with Subsection 15.10(i);
 - (4) When excavated soil is temporarily stored or stockpiled on-site, the soil shall be secured in a manner that prevents human exposure to contaminated soil and prevents soil exposure to precipitation that may cause surface runoff, and any excavation shall be secured to prevent accidental or intentional entry by the public. Excavated contaminated soil (including excessively contaminated soil) may be returned to the original excavation when petroleum storage tank systems have been removed or replaced, or if contaminated soil was encountered during construction activities; and
 - (5) Excavated contaminated soil (including excessively contaminated soil) is not stored or stockpiled on-site for more than 60 days, unless it is stockpiled on a right-of-way, in which case it must be removed for proper treatment or proper disposal as soon as practical but no later than 30 days after excavation, or unless it is being land farmed in accordance with Subsection 7.02(b), at which time the soil must be returned to the original excavation or removed and properly treated or properly disposed. Contaminated soil (including excessively contaminated soil) may be containerized in water tight drums and stored on-site for 90 days, after which time proper treatment or proper disposal of the contaminated soil shall occur, or may be land farmed as specified in Subsection 7.02(b).
- (b) Land farming of contaminated soil is allowed, provided the land farming operation is located on the same site as the source of contaminated soil unless it is land farmed at a permitted stationary facility. The following criteria must be met for contaminated soil land farmed on the source site:
- (1) The land farm operation must be at least 200 feet from any residence, school or park;
 - (2) An area large enough to spread the soil to a thickness of 6 to 12 inches must be available;
 - (3) The land farming area must be secured in a manner that prevents accidental or intentional entry by the public and prevents human exposure to contaminated soil;
 - (4) The materials used to construct the land farm treatment area must withstand the rigors of the land farming and weather;
 - (5) The land farmed soil must be placed over an impermeable liner or surface, and surrounded at all times by an impermeable liner supported by berms;
 - (6) The land farmed soil must be tilled at least biweekly;

- (7) The land farmed soil must be covered when not being tilled to prevent water from entering or leaving the area;
- (8) A monitoring and sampling program must be established to evaluate the effectiveness of the land farming operation and the effect on the environment, including monitoring of groundwater to confirm leaching is not occurring and of off gas emissions for air regulatory compliance. The monitoring and sampling program, design specifications of the treatment area, and types and amounts of any proposed additives to the soil, must be submitted by the responsible party to ERM before the land farming operation commences, to demonstrate that the objectives of this paragraph will be met. Prior approval is not required for quantities less than 20 cubic yards, but the design specifications and results of the monitoring and sampling program must be submitted in the Source Removal Report;
- (9) Land farming of soil is limited to 180 days, at the end of which time proper disposal is required except if written approval under the provisions of Subsection 17.05, to exceed this time frame, is obtained from ERM; and
- (10) Land farmed soil that does not exceed the lower of the direct exposure residential cleanup target levels and leachability based on groundwater criteria cleanup target levels specified in Chapter 62-777, F.A.C., Table II may be disposed on-site or off-site. Responsible parties are advised that other federal, state or local requirements may apply to these activities. Land farmed soil that exceeds the applicable cleanup target levels specified in Chapter 62-777, F.A.C., Table II may not be disposed or returned to the original excavation without obtaining approval from ERM.
- (c) Soil treatment or disposal techniques not authorized by applicable rules of the Department, or in Subsection 7.02(b), require approval in a Remedial Action Plan submitted under Section 15.

7.03 Authorizations.

Authorization or receipt of approval under Section 7, does not relieve the responsible party from the obligation to comply with other Department or ERM rules (for example, Chapters 62-701 and 62-730, F.A.C.) for product recovery, product disposal, or the handling, storage, disposal or treatment of contaminated media. Responsible parties are advised that other federal, state or local requirements may apply to these activities.

(a) Source Removal Report.

- (1) Within 60 days of completion of free product removal and proper disposal, soil treatment or proper soil disposal, two copies of a Source Removal Report shall be submitted by the responsible party to ERM for review.
- (2) Unless otherwise specified in a preapproval agreement, the report shall contain the following information in detail, as applicable:
 - a. The volume of product that was discharged, if known;
 - b. The volume of free product and the volume of groundwater recovered;
 - c. The volume of contaminated soil excavated and treated or properly disposed;
 - d. The disposal or recycling methods for free product and contaminated soil;

- e. The disposal methods for other contaminated media and any investigative-derived waste;
 - f. A scaled site map (including a graphical representation of the scale used) showing location(s) of free product recovered and the area of soil removed or treated and the approximate locations of all samples taken;
 - g. A table summarizing free product thickness in each monitoring well or piezometer and the dates the measurements were made;
 - h. The type of field screening instrument, analytical methods or other method used;
 - i. The dimensions of the excavation(s) and location(s), integrity, capacities and last known contents of storage tanks, integral piping, dispensers, or appurtenances removed;
 - j. The dimensions of the excavation(s) and location(s) and capacities of replacement underground storage tanks;
 - k. A table indicating the identification, depth and field soil screening results or laboratory analyses of each sample collected;
 - l. Depth to groundwater at the time of each excavation, measurement locations and method used to obtain that information;
 - m. Type of petroleum or petroleum products discharged;
 - n. Documentation confirming the proper treatment or proper disposal of the free product or contaminated soil, including disposal manifests for free product, a copy of the treatment or acceptance of the contaminated soil and results of analyses, if performed; and
 - o. For land farmed soil, a copy of the pre-treatment and post-treatment analytical results.
- (3) Within 60 days of receipt of a Source Removal Report, ERM shall notify the responsible party in writing of its determination of the adequacy of the documentation and conformance with Source Removal criteria pursuant to Section 7.

Section 8 QUALITY ASSURANCE REQUIREMENTS

- 8.01 All sampling and analyses under this rule shall be performed in accordance with Chapter 62-160, F.A.C., Quality Assurance.
- 8.02 Unless otherwise specified in this Ordinance, reports that are submitted to ERM and that contain analytical data shall include the following forms and information:
- (a) Laboratory reports that include all information specified in Rule 62-160.670, F.A.C.;
 - (b) Copies of the completed chain of custody record form(s) [Form 62-770.900(2)];
 - (c) Copies of the completed water sampling log form(s) [Form 62-770.900(3)]; and
 - (d) Results from screening tests or on-site analyses performed pursuant to this Ordinance.

1 **Section 9 PROFESSIONAL CERTIFICATIONS**

2
3 Applicable portions of technical documents submitted to ERM shall be signed and sealed by a
4 Professional Engineer registered under Chapter 471, F.S., or a Professional Geologist registered
5 under Chapter 492, F.S., certifying that the applicable portions of the technical document and
6 associated work comply with standard professional practices, the rules of the Department and
7 any other laws and rules governing the profession. If a laboratory report is submitted separately
8 from any other technical document submittal, this requirement shall not apply to the laboratory
9 report.
10

11 **Section 10 SITE ASSESSMENT**

12
13 10.01 Within 30 days of discovery of contamination, a site assessment shall be initiated by the
14 Responsible Party.
15

16 10.02 The objectives of the site assessment shall be the following, as applicable:
17

- 18 (a) To determine or confirm the source(s) of contamination to the extent practicable
19 and to estimate the volume of petroleum or petroleum products that was released.
20 That confirmation may include a determination of the structural integrity, in
21 accordance with the testing procedures specified in the Petroleum Storage Systems
22 Ordinance, of any petroleum storage tank system that exists at the site and is likely
23 to be the source of the contamination;
24
- 25 (b) To establish the horizontal extent and thickness of free product. If the soil
26 concentration of a petroleum products' contaminant of concern is above its soil
27 saturation concentration (C_{sat}), free product may be present [refer to the Technical
28 Report: Development of Soil Cleanup Target Levels (SCTLs) for Chapter 62-777,
29 F.A.C., Final Report, dated May 26, 1999, for a discussion of C_{sat} methodology];
30
- 31 (c) To determine whether contamination is present, and to determine the horizontal
32 and vertical extent of contamination in every medium found to be contaminated;
33
- 34 (d) To estimate the total mass and mass distribution of petroleum or petroleum
35 products in the subsurface as product entrapped above the water table, free
36 product, and product entrapped below the water table;
37
- 38 (e) To determine whether source removal in accordance with Section 7, is warranted;
39
- 40 (f) To identify the aquifer or aquifers expected to be affected by the site and their
41 groundwater classification, unless the site meets the No Further Action criteria in
42 Subsection 13.01;
43
- 44 (g) To identify and characterize any perched zone, if present, unless the site meets the
45 No Further Action criteria in Subsection 13.01;
46
- 47 (h) To describe relevant geologic and hydrogeologic characteristics of affected and
48 potentially affected hydrogeologic zones, unless the site meets the No Further
49 Action criteria in Subsection 13.01;
50
- 51 (i) To describe geologic and hydrogeologic characteristics of the site that influence
52 migration and transport of petroleum products' contaminants of concern, unless
53 the site meets the No Further Action criteria in Subsection 13.01;
54
- 55 (j) To determine the rate and direction of groundwater flow (at all affected depths, as
56 appropriate), to determine the extent of water table fluctuation, to evaluate the
57 potential effect of seasonal variations on the rate and direction of groundwater
58 flow, and to determine whether there are any tidal effects in sites located near
59 marine surface water, unless the site meets the No Further Action criteria in
60 Subsection 13.01;

- 1 (k) To determine other mechanisms of transport of petroleum products' contaminants
2 of concern in the immediate vicinity of the site, including rate and direction of
3 movement of petroleum products' contaminants of concern in sewer lines,
4 subsurface utility conduits or vaults, soil and surface water, as applicable, unless
5 the site meets the No Further Action criteria in Subsection 13.01;
6
7 (l) To determine by means of a well survey whether any municipal or public water
8 supply wells are present within a 1/2 mile radius of the site, whether the site is
9 located within the regulated wellhead protection zone of a municipal wellfield or
10 public water supply well, and whether any private water supply wells (including
11 potable, irrigation and industrial) are present within a 1/4 mile radius of the site,
12 unless the site meets the No Further Action criteria in Subsection 13.01;
13
14 (m) To determine whether any surface water will be exposed to contamination
15 originating from the site;
16
17 (n) If non-petroleum products' contaminants of concern are detected during the
18 assessment, to identify the general location of the source in relation to the site and
19 to evaluate whether the non-petroleum products' contaminants of concern may
20 have an effect on future rehabilitation activities of the petroleum contamination;
21
22 (o) To report any off-site activities (for example, dewatering, active remediation, or
23 flood control pumping) in the immediate vicinity of the site that may have an
24 effect on the groundwater flow at the site, unless the site meets the No Further
25 Action criteria in Subsection 13.01;
26
27 (p) To evaluate the degree to which human health, safety or welfare may be affected
28 by exposure to the contamination;
29
30 (q) To evaluate the effect of the contamination on the environment; and
31
32 (r) To facilitate the selection of the most cost-effective remediation strategy for the
33 site that is protective of human health and the environment, unless No Further
34 Action is deemed appropriate under the provisions of Section 13.
35

36 10.03 The site assessment shall include tasks that are necessary to achieve objectives
37 described in Subsection 10.02(a)-(r), and may include the following:
38

- 39 (a) Use of geophysical equipment such as magnetometers, ground penetrating radar or
40 metal detectors to detect petroleum storage tank system components;
41
42 (b) Use of borehole geophysical methods to determine geologic and hydrogeologic
43 characteristics of affected and potentially affected hydrogeologic zones;
44 (c) Sampling of undisturbed soil above and below the water table using
45 hand-augering, drilling or direct push technology to obtain information on site
46 stratigraphy and on product entrapped below the water table, to determine
47 geotechnical parameters and to assess the appropriateness of monitoring natural
48 attenuation;
49
50 (d) Use of fracture trace analysis to discover linear zones in which discrete flow could
51 take place;
52
53 (e) Use of field soil screening techniques that must be demonstrated to be appropriate
54 for the site conditions, to determine the optimal locations for collection of samples
55 for laboratory analyses. The laboratory analyses specified in Table B in Chapter
56 62-770, F.A.C. shall be performed to confirm the screening results. These
57 analyses shall be performed on a minimum of three grab samples with high,
58 medium and low screening results for the site. These analyses shall be performed
59 per source area and per sampling event, except that only one representative sample
60 shall be sufficient if the field screening results indicate that contaminated soil is

not present. The actual number of laboratory samples shall be based on the horizontal and vertical extent of contamination and the degree of correlation between field soil screening and laboratory results;

- (f) Use of visual observations to determine whether soil contaminated or saturated with used oil is present. If the presence of soil contaminated or saturated with used oil is identified, at least one sample from the most visibly stained area shall be collected for analyses for the used oil parameters as listed in Table C in Chapter 62-770, F.A.C. If soil visually stained or saturated with used oil is excavated in accordance with Subsection 7.02(a), at least one sample from the bottom of the excavation, if the water table was not reached, and at least one sample from the wall of the excavation at an equivalent depth of the soil visually stained or saturated with used oil that was removed, shall be collected for analyses for contaminants of concern detected in the sample collected in the most visibly stained area or during pre-burn analyses, to confirm that all contaminated soil was removed;
- (g) Use of piezometers or monitoring wells to determine the frequency of occurrence, horizontal extent and thickness of free product;
- (h) Use of monitoring wells, piezometers or other sampling and measurement techniques to obtain a three-dimensional evaluation of the source of contamination, of the migration of petroleum products' contaminants of concern below the water table, of groundwater flow and of relevant hydrologic parameters;
- (i) Use of piezometers or monitoring wells to determine horizontal direction(s) of groundwater flow and horizontal and vertical hydraulic gradients, as applicable;
- (j) Survey of every top-of-casing. Unless the elevation of each top-of-casing is determined in reference to a single benchmark of an arbitrary elevation, the survey shall be completed by closing the loop for each pair of adjacent monitoring wells or piezometers or with the first top-of-casing surveyed;
- (k) Use of field screening techniques (for example, use of temporary wells, piezometers or direct push technology to obtain groundwater samples for on-site analyses using gas chromatography) to optimize monitoring well placement;
- (l) Sampling of monitoring wells for the appropriate laboratory analyses (using the quiescent sampling technique for metals if turbidity is affecting the total metal results) to determine the degree and extent of groundwater contamination, if applicable, such that:
 - (1) Drill cuttings and drilling mud generated during monitoring well installation shall be handled and disposed of in such a manner that contamination is not spread into previously uncontaminated or less contaminated areas; and
 - (2) Development water and purge water shall be handled and disposed of in such a manner that contamination is not spread into previously uncontaminated or less contaminated areas;
- (m) Sampling of surface water and sediment for the appropriate laboratory analyses to determine the degree and extent of surface water and sediment contamination, if applicable;
- (n) Inspection of public records (such as those at the Palm Beach County Health Department, at the South Florida Water Management District and at local municipalities), and performance of a field reconnaissance as appropriate, to locate all water supply wells (including potable, irrigation and industrial) in accordance with Subsection 10.02(l);

- (o) If the possibility exists that the contamination may have impacted public or private water supply wells, sampling of the well or wells for the appropriate laboratory analyses, with the consent of the owner(s), to determine whether any contamination is present;
- (p) Performance of slug tests or a pumping test, if appropriate, on different strata of the surficial aquifer or of different aquifers, if applicable, using water-table monitoring wells, intermediate depth monitoring wells and vertical extent monitoring wells. Performance of a pumping test may be deferred until the Remedial Action Plan phase if groundwater extraction is proposed in accordance with the provisions of Section 15. If a pumping test is performed within the plume, at least one sample of the groundwater withdrawn during the test shall be collected at the end of the pumping test and analyzed for the appropriate petroleum products' contaminants of concern and physical properties (for example, Hardness, Iron, Total Dissolved Solids and Total Suspended Solids) that may affect the treatment system and disposal options;
- (q) Use of available and appropriate literature in conjunction with site-specific lithologic logs to identify aquifers present beneath the site. An analysis for Total Dissolved Solids shall be used if it is chosen to demonstrate that the natural background quality of the groundwater on-site would allow it to be classified as an area of G-III groundwater;
- (r) Review of historical land use records and existing aerial photographs;
- (s) Sampling of soil for USEPA Test Method 1312, Synthetic Precipitation Leaching Procedure (SPLP) analyses, or for USEPA Test Method 1311, Toxicity Characteristic Leaching Procedure (TCLP) analyses if the contamination is derived from used oil or similar petroleum products or if the information available indicates that the soil has the potential to be a hazardous waste, or for the analyses of the physical parameters listed in Chapter 62-777, F.A.C., Table III, required to support a recommendation for performing a risk assessment; and
- (t) Use of other methods approved by the Department in accordance with Rule 62-770.890.

10.04 The analyses for petroleum products' contaminants of concern in surface water, groundwater, soil and sediment samples, as applicable, shall be performed using the analytical procedures listed in Tables B, C and D in Chapter 62-770, F.A.C. The type of petroleum or petroleum products causing the contamination will determine which table is appropriate. Equivalent methods may be used if approved through protocols described in Rules 62-160.400(6), (7) and (8), F.A.C.

- (a) If petroleum product discharges are from the Gasoline or Kerosene Analytical Groups, analyses shall be performed as described in Table B, Chapter 62-770, F.A.C., except that:
- (1) If the site is anticipated to meet the No Further Action criteria in Section 13, and the site is contaminated by products solely from the Gasoline Analytical Group, analytical screening of the monitoring wells for Benzene, Ethylbenzene, Toluene, total Xylenes, MTBE and Polycyclic Aromatic Hydrocarbons (PAHs) (using applicable methods in Table B, Chapter 62-770, F.A.C.) may be performed; or
- (2) If the site is anticipated to meet the No Further Action criteria in Section 13, and the site is contaminated by products from the Kerosene Analytical Group, analytical screening of the monitoring wells for Benzene, Ethylbenzene, Toluene, total Xylenes, MTBE, PAHs and Total Recoverable Petroleum Hydrocarbons (TRPHs) (using applicable methods in Table B, Chapter 62-770, F.A.C.) may be performed.

- (b) If petroleum product discharges are from used oil, from an identified product not listed in the Gasoline or Kerosene Analytical Groups, or from a product for which the specific identity is unknown, analyses shall be performed as described in Table C, Chapter 62-770, F.A.C.
- (c) If the contamination is derived from petroleum as defined in Section 376.301, F.S., analyses shall be performed as described in Table D, Chapter 62-770, F.A.C.
- 10.05 If initial testing of representative monitoring well(s), performed pursuant to Subsection 10.04, does not indicate the presence of any petroleum products' contaminants of concern within a specific analytical procedure, or indicates that the presence of a contaminant of concern is due to a background concentration, subsequent testing at the site need not include that analytical procedure.
- 10.06 Within 270 days of discovery of contamination, two copies of a Site Assessment Report (that may reference previously submitted documents) shall be submitted by the responsible party to ERM for review. Applicable portions of the Site Assessment Report shall be signed and sealed by an appropriate registered professional pursuant to Section 9.
- 10.07 The Site Assessment Report shall:
- (a) Summarize all tasks that were implemented pursuant to Subsections 10.02 and 10.03, and summarize the results obtained. All maps shall be in black and white, except the topographic map required by Subsections 10.07(a)2 (if a color map is submitted, a duplicate black and white map is required), and all site maps shall indicate the North direction, be drawn to scale and include a graphical representation of the scale used. The following shall be included when applicable:
- (1) A summary of site history and operations, including the type and length of time petroleum or specific petroleum products were stored/distributed;
- (2) A copy of the portion of the most recent USGS topographic map, including quadrangle name and scale, that clearly identifies the site in relation to the surrounding area;
- (3) A vicinity map showing pertinent features, particularly any potential sources of petroleum or petroleum products contamination (such as former or current gas stations), and non-petroleum product sources (such as former or current dry cleaners) if non-petroleum products' contaminants of concern were detected during the assessment. The FDEP facility identification numbers shall be provided if available. If the subject site meets the No Further Action criteria in Subsection 13.01, a vicinity map is not required;
- (4) One or more site maps showing all pertinent features (such as former and current tank farms, integral piping and dispensers, monitoring wells, buildings, land cover, utilities and subsurface stormwater drainage structures) present in the immediate vicinity of the contamination;
- (5) When available, a copy of the most recent and all previously failed tank and integral piping tightness tests performed on the storage tank system(s) known or suspected to be the source of the contamination and all available records on storage tank or integral piping repairs performed on such system(s);
- (6) Details of any preliminary assessment or source removal activities performed in relation to the petroleum or petroleum products contamination at the site, such as product recovery and contaminated soil removal (summarized in graphical and tabular form);

- (7) Data and calculations used to determine the top-of-casing elevations and the accuracy of the survey performed in accordance with Subsection 10.03(j);
- (8) Tables listing the top-of-casing elevations, depths to groundwater and water-level elevations obtained at least twice, at least one month apart, and the dates the data were collected;
- (9) Site maps illustrating the water-level elevations calculated at each monitoring well or piezometer, and depicting the estimated elevation contours and an interpretation of groundwater flow direction. If different strata of the same aquifer, or if different aquifers, are affected, separate figures must be submitted for each date on which measurements were recorded, depicting flow in each stratum or aquifer; if the site's groundwater is tidally-influenced, separate figures must be submitted depicting flow at high and low tide;
- (10) A table summarizing the use and well construction details, if available, of all the water supply wells identified during the well survey performed in accordance with Subsection 10.02(l);
- (11) A map showing the approximate location(s) of the water supply well(s) identified during the well survey performed in accordance with Subsection 10.02(l), in relation to the subject site;
- (12) The results from slug tests performed on a minimum of three monitoring wells or from a pumping test, performed to determine aquifer properties, including a description of methods used, assumptions made, field data and calculations, unless the site meets the No Further Action criteria in Subsection 13.01, or the Natural Attenuation criteria in Subsections 14.01(a)-(f);
- (13) The result of a calculation of horizontal groundwater flow velocity (v) for the site, using the formula $v = KI/n$, where K is the average hydraulic conductivity, I is the average horizontal hydraulic gradient, and n is the estimated effective soil porosity, unless the site meets the No Further Action criteria in Subsection 13.01, or the Natural Attenuation criteria in Subsections 14.01(a)-(f);
- (14) A description of any geophysical methods used for the project;
- (15) A description of the site-specific stratigraphy, based on the lithologic logs prepared during monitoring well installation and during drilling of standard penetration test borings (including composition, thickness and continuity of various lithologic units);
- (16) At least one cross-section illustrating the site-specific stratigraphy and approximate concentrations of applicable petroleum products' contaminants of concern;
- (17) Details of any other assessment methodology used at the site, including any field screening techniques and measures of biological activity (for example, dissolved oxygen, nutrient levels);
- (18) A table summarizing the field soil screening results obtained at each sampling location and depth, as well as a summary of the results of any laboratory analyses performed and a listing of the date(s) the work was performed;

- (19) One or more site maps showing all soil sampling locations for field screening or laboratory analyses, in relation to the former and current petroleum or petroleum products tank systems, integral piping and dispensers and any excavated areas, and illustrating the horizontal and vertical extent of vadose zone soil contamination when soil contamination is detected;
 - (20) Piezometer, monitoring well and recovery well construction details and construction diagrams, including methods and materials, field sampling data sheets, lithologic logs and volumes of groundwater removed during well development;
 - (21) A table that is updated any time additional piezometers, monitoring wells or recovery wells are installed and that summarizes the well construction details (including the top-of-casing elevation, total depth, screen length, and depth of the top of the screen below land surface) of all monitoring wells (including compliance wells), piezometers and recovery wells;
 - (22) A current table that summarizes free product thickness measured, volumes recovered and date(s) measurements were recorded, if applicable;
 - (23) An estimate of the total mass and mass distribution of petroleum or petroleum products in the subsurface as product entrapped above the water table, free product, and product entrapped below the water table, and a site map showing the estimated horizontal extent of free product;
 - (24) All information required by Section 8;
 - (25) At least one table summarizing the groundwater and surface water analytical results (with the most recent sampling of representative monitoring wells having occurred within 270 days of Site Assessment Report submittal), detection limits used, and analyses performed (listing all contaminants of concern detected and their corresponding cleanup target levels); and
 - (26) One or more site maps showing any areas excavated, and all groundwater and surface water sampling locations, and illustrating the degree and extent of groundwater and surface water contamination (separate maps for Benzene, for Total Volatile Organic Aromatics, and for all other significant/widespread petroleum products' contaminants of concern).
- (b) Summarize conclusions regarding site assessment objectives outlined in Subsection 10.02(a)-(r), and include one of the following:
- (1) A No Further Action Proposal without conditions shall be included if the site meets the applicable No Further Action criteria in Subsection 13.01, or a No Further Action Proposal with conditions such as institutional and engineering controls may be included if the site meets the applicable No Further Action criteria in Subsection 13.02;
 - (2) A Natural Attenuation Monitoring Plan may be included if the site meets the Natural Attenuation criteria in Section 14;
 - (3) A recommendation to prepare a risk assessment shall be included if the responsible party chooses to justify alternative cleanup target levels due to site-specific conditions. The recommendation shall include documentation adequate to support the request to do one or more of the task elements in Chapter 62-770.650(2), F.A.C., and shall specify the parameters or exposure assumptions that will be used to develop the alternative cleanup target levels pursuant to Chapter 62-770.650, F.A.C.; or

- (4) A recommendation to prepare a Remedial Action Plan pursuant to Section 15, shall be included if the site does not meet the No Further Action criteria in Subsection 13.01, unless a proposal for a No Further Action with conditions such as institutional and engineering controls pursuant to Subsection 13.02, or a Natural Attenuation Monitoring Plan pursuant to Section 14, or a recommendation to prepare a risk assessment pursuant to Section 12, is included.

10.08 Within 60 days of receipt of a Site Assessment Report or of additional information pursuant to Subsection 17.04, ERM shall:

- (a) Provide the responsible party with written approval of the Site Assessment Report and the proposal or recommendation submitted pursuant to Subsection 10.07(b); or
- (b) Notify the responsible party in writing, stating:
- (1) The reason(s) why the Site Assessment Report does not contain information adequate to support the conclusions regarding the site assessment objectives outlined in Subsection 10.02(a)-(r); or
- (2) The reason(s) why the proposal or recommendation submitted pursuant to Subsection 10.07(b), is not supported by the applicable criteria.
- (c) Site assessment activities shall not be deemed complete until such time as a Site Assessment Report is approved.

Section 11 FATE AND TRANSPORT MODEL REQUIREMENTS

11.01 A model used to support an evaluation in accordance with the provisions of Sections 12, 13 or 14, must be a fate and transport model with the ability to adequately simulate movement and degradation of petroleum products' contaminants of concern in the aquifer over time and distance, taking into account attenuation mechanisms including biological, physical, and chemical processes. The model must comply with the provisions of Rule 62-770.610.

Section 12 RISK ASSESSMENT

12.01 Within 90 days after written Departmental approval of the recommendation to prepare a risk assessment, the applicable risk assessment task elements shall be performed and three copies of the Risk Assessment Report shall be submitted by the responsible party to ERM for review. ERM will review the Risk Assessment Report and will forward ERM's review comments along with the Risk Assessment Report to the Department for subsequent Departmental review.

Section 13 NO FURTHER ACTION

13.01 A No Further Action without conditions shall apply if:

- (a) Free product does not exist in wells, boreholes, open drainage ditches, open excavations or trenches or on nearby surface water, or petroleum or petroleum products in excess of 0.01 foot in thickness are not present in sewer lines, subsurface utility conduits or vaults, and no other fire or explosive hazard exists as a result of a release of petroleum or petroleum products;
- (b) For the purposes of Section 376.3071(11)(b)2., F.S., excessively contaminated soil does not exist;

- (c) Contaminated soil is not present in the unsaturated zone, as demonstrated by the analyses of soil samples collected from representative sampling locations that show that concentrations of all of the applicable petroleum products' contaminants of concern do not exceed:
- (1) The background concentrations; or
 - (2) The lower of the direct exposure residential cleanup target levels or the applicable leachability cleanup target levels specified in Chapter 62-777, F.A.C., Table II or, if only leachability cleanup target levels are exceeded, then direct leachability testing results may be used to demonstrate that leachate concentrations do not exceed the applicable groundwater cleanup target levels. Leachability testing pursuant to USEPA Test Method 1312 (SPLP), or USEPA Test Method 1311 (TCLP) if the contamination is derived from used oil or similar petroleum products, must be performed on a minimum of three representative grab soil samples from each source area that exceed leachability cleanup target levels specified in Chapter 62-777, F.A.C., Table II, with the actual number of samples based on the horizontal and vertical extent of contamination and the site-specific stratigraphy; or
 - (3) Alternative cleanup target levels for TRPHs established in accordance with Chapter 62-770.650, F.A.C.; or
 - (4) Alternative cleanup target levels established using appropriate site-specific parameters of the contaminated soil in accordance with Chapter 62-770.650, F.A.C.;
- (d) Concentrations of petroleum products' contaminants of concern in groundwater samples do not exceed the higher of the background concentrations or the applicable cleanup target levels referenced in Chapter 62-777, F.A.C., Table I, groundwater criteria column, except that if the site's groundwater contamination is affecting or may potentially affect a freshwater surface water body based on monitoring well data, groundwater flow rate and direction, or fate and transport modeling, then the cleanup target levels referenced in Chapter 62-777, F.A.C., Table I, freshwater surface water criteria column shall also apply to groundwater; and
- (e) Concentrations of petroleum products' contaminants of concern in surface water samples do not exceed the higher of the background concentrations or the applicable cleanup target levels referenced in Chapter 62-777, F.A.C., Table I, freshwater surface water criteria column or marine surface water criteria column, as applicable.
- 13.02 A No Further Action with conditions such as institutional and engineering controls shall apply if the conditions are protective of human health, public safety and the environment in a cost-effective manner and are agreed to by the real property owner(s) of all affected properties. Fate and transport models as defined in Section 11, may be utilized to demonstrate that conditions are protective. The following conditions must be met:
- (a) Free product does not exist in wells, boreholes, open drainage ditches, open excavations or trenches or on nearby surface water, or petroleum or petroleum products in excess of 0.01 foot in thickness are not present in sewer lines, subsurface utility conduits or vaults, and no other fire or explosive hazard exists as a result of a release of petroleum or petroleum products, or free product removal is not technologically feasible;
 - (b) For the purposes of Section 376.3071(11)(b)2., F.S., excessively contaminated soil does not exist;

- (c) Alternative soil cleanup target levels have been established by the real property owner(s) by agreeing to:
- (1) The enactment of an institutional control, in which case the concentrations of the petroleum products' contaminants of concern must not exceed the lower of the direct exposure commercial/industrial cleanup target levels or the applicable leachability cleanup target levels specified in Chapter 62-777, F.A.C., Table II, as applicable. The soil leachability cleanup target levels may be exceeded if it is demonstrated to ERM upon individual site characteristics and the restrictions specified in the institutional control, that petroleum products' contaminants of concern will not leach into the groundwater at concentrations that exceed applicable groundwater cleanup target levels referenced in Chapter 62-777, F.A.C., Table I. If soil that exceeds direct exposure residential cleanup target levels or applicable leachability cleanup target levels specified in Chapter 62-777, F.A.C., Table II is allowed to remain on-site, then soil removal, treatment and disposal criteria in Subsections 7.02 and 7.03, shall apply if the contaminated soil is later excavated;
 - (2) The enactment of an institutional control, in which case the concentrations of the petroleum products' contaminants of concern in soil below two feet below land surface may exceed the direct exposure residential cleanup target levels but may not exceed the applicable leachability cleanup target levels specified in Chapter 62-777, F.A.C., Table II. The leachability cleanup target levels may be exceeded if it is demonstrated to ERM, based upon individual site characteristics and the restrictions specified in the institutional control, that petroleum products' contaminants of concern will not leach into the groundwater at concentrations that exceed applicable groundwater cleanup target levels referenced in Chapter 62-777, F.A.C., Table I. If soil that exceeds direct exposure residential cleanup target levels or leachability cleanup target levels specified in Chapter 62-777, F.A.C., Table II is allowed to remain on-site, then soil removal, treatment and disposal criteria in Subsections 7.02 and 7.03, shall apply if the contaminated soil is later excavated, or exposed due to a change in site conditions;
 - (3) The enactment of an institutional control, in which case the concentrations of the petroleum products' contaminants of concern must not exceed the alternative soil cleanup target levels justified pursuant to Chapter 62-770.650, F.A.C.. If soil that exceeds direct exposure residential cleanup target levels or leachability cleanup target levels specified in Chapter 62-777, F.A.C., Table II is allowed to remain on-site, then soil removal, treatment and disposal criteria in Subsections 7.02 and 7.03, shall apply if the contaminated soil is later excavated. The enactment of an institutional control is not necessary if the alternative soil cleanup target levels were justified solely using appropriate site-specific parameters of the contaminated soil in accordance with Chapter 62-770.650, F.A.C.; or
 - (4) The implementation of engineering controls, such as permanent cover material, that prevent human exposure and limit water infiltration, in conjunction with institutional controls. If soil that exceeds direct exposure residential cleanup target levels or leachability cleanup target levels specified in Chapter 62-777, F.A.C., Table II is allowed to remain on-site, then soil removal, treatment and disposal criteria in Subsections 7.02 and 7.03, shall apply if the contaminated soil is later excavated, or exposed due to a change in site conditions; and
- (d) Alternative groundwater cleanup target levels have been established by the real property owner(s) depending on the current or projected use of groundwater and surface water in the vicinity of the site and by agreeing to:

- (1) The enactment of an institutional control to ensure that the contaminated groundwater will not be utilized, in accordance with the following:
- a. For contamination of groundwater of low yield (average hydraulic conductivity of less than one foot per day, determined by performing slug tests on a minimum of three monitoring wells; and a maximum yield of 80 gallons per day, determined by pumping a four inch well screened across the cross-section of the plume, for a minimum of two hours) or with background concentrations that exceed Florida's Primary and Secondary Drinking Water Standards, then the cleanup target levels referenced in Chapter 62-777, F.A.C., Table I, groundwater of low yield/poor quality criteria column shall apply to groundwater;
 - b. For groundwater contamination that is affecting or may potentially affect a marine surface water body with no other property or properties located between the source property boundary and the marine surface water body, then the applicable cleanup target levels referenced in Chapter 62-777, F.A.C., Table I, marine surface water criteria column shall apply to groundwater;
 - c. For groundwater contamination that is limited to the immediate vicinity of the source area and the area of groundwater contamination is less than 1/4 acre, where it has been demonstrated by a minimum of one year of groundwater monitoring that the groundwater contamination is not migrating away from such localized source area, then the alternative cleanup target levels shall be established through a scientific evaluation. The scientific evaluation (historical data or modeling results, as applicable) must demonstrate that the concentrations of petroleum products' contaminants of concern in groundwater at the property boundary of the real property on which the petroleum contamination originates shall not exceed the background concentrations or the applicable cleanup target levels specified in Chapter 62-777, F.A.C., Table I; or
 - d. If alternative cleanup target levels have been justified pursuant to Chapter 62-770.650, F.A.C., the concentrations of petroleum products' contaminants of concern do not exceed those alternative cleanup target levels; or
- (2) The implementation of engineering controls, such as a permanent containment (for example, a slurry wall), that prevent migration of the plume, in conjunction with institutional controls.

13.03 Unless the No Further Action Proposal is included in a Site Assessment Report pursuant to Subsection 10.07(b)1, two copies of the No Further Action Proposal shall be submitted by the responsible party to ERM for review when the criteria for No Further Action have been met. If applicable, documentation of the agreement with the real property owner(s) for a No Further Action with conditions shall be attached. Applicable portions of the No Further Action Proposal shall be signed and sealed by an appropriate registered professional pursuant to Section 9.

13.04 Within 60 days of receipt of a No Further Action Proposal or of additional information pursuant to Subsection 17.04, ERM shall:

- (a) Provide the responsible party with notification that the No Further Action Proposal was approved for the purpose of this Ordinance; or
- (b) Notify the responsible party in writing, stating the reasons(s) why the No Further Action Proposal does not contain information adequate to support the conclusion that the applicable No Further Action criteria in Section 13, have been met.

Section 14 NATURAL ATTENUATION

14.01 Depending on the individual site characteristics, monitoring of natural attenuation is an appropriate strategy for site rehabilitation, provided human health, public safety and the environment are protected. The individual site characteristics may include the current and projected use of the affected groundwater and surface water in the vicinity of the site, the current and projected land use of the area affected by the contamination, the exposed population, the location of the plume, the degree and extent of contamination, the rate of migration of the plume, the apparent or potential rate of degradation of petroleum products' contaminants of concern through natural attenuation, and the potential for further migration in relation to the site's property boundary. Fate and transport models as defined in Section 11, may be utilized to support the appropriateness of natural attenuation monitoring. Monitoring of natural attenuation is appropriate if the following criteria are met:

- (a) Free product does not exist in wells, boreholes, open drainage ditches, open excavations or trenches or on nearby surface water, or petroleum or petroleum products in excess of 0.01 foot in thickness are not present in sewer lines, subsurface utility conduits or vaults, and no other fire or explosive hazard exists as a result of a release of petroleum or petroleum products;
- (b) Contaminated soil is not present, except that applicable leachability cleanup target levels specified in Chapter 62-777, F.A.C., Table II may be exceeded if it is demonstrated to ERM that the soil does not constitute a continuing source of contamination to the groundwater at concentrations that pose a threat to human health, public safety or the environment, and it is demonstrated that the rate of natural attenuation of contaminants of concern in the groundwater exceeds the rate at which contaminants of concern are leaching from the soil, and that the presence of contaminated soil will not result in increased cleanup cost. The determination shall be based upon individual site characteristics and demonstrated by USEPA Test Method 1312 (SPLP), or USEPA Test Method 1311 (TCLP) if the contamination is derived from used oil or similar petroleum products, and based upon groundwater modeling, site stratigraphy or site assessment results;
- (c) Petroleum products' contaminants of concern present in the groundwater above background concentrations or applicable cleanup target levels are not migrating beyond the temporary point of compliance, or migrating vertically that may contaminate other aquifers or surface water resources or result in increased cleanup cost;
- (d) The physical, chemical and biological characteristics of each petroleum products' contaminant of concern are conducive to natural attenuation;
- (e) If more than one sampling event has been performed, the available data show an overall decrease in the mass of contamination; and
- (f) The site is anticipated to meet the applicable No Further Action criteria in Section 13, as a result of natural attenuation in five years or less, the background concentrations or the applicable cleanup target levels are not exceeded at the temporary point of compliance as established pursuant to Subsections 14.02 or 14.03, and the concentrations of petroleum products' contaminants of concern do not exceed the criteria specified in Chapter 62-777, F.A.C., Table V; or
- (g) If the criteria in Subsection 14.01(f), are not met, the cost-effectiveness of natural attenuation monitoring may be demonstrated, based on:
 - (1) A technical evaluation of groundwater and soil characteristics, chemistry, and biological activity that verifies that the petroleum products' contaminants of concern have the capacity to degrade under the site-specific conditions;

(2) A scientific evaluation (historical data or modeling results, as appropriate) of the plume migration in relation to the temporary point of compliance as established pursuant to Subsections 14.02 or 14.03, an estimation of annual milestone reductions of concentrations of petroleum products' contaminants of concern in monitoring wells, and an estimation of the time required to achieve the applicable No Further Action criteria in Section 13. Available technical information (including historical water quality data) shall be used for model calibration; and

(3) A life-cycle cost analysis of remedial alternatives.

14.02 Provided human health, public safety and the environment are protected, the point of compliance may be temporarily moved to the property boundary, to the edge of the plume when the plume is within the property boundary, or beyond the property boundary if such extension is needed to facilitate monitoring of natural attenuation or to address the current conditions of the plume. The responsible party shall identify to ERM the owners of any property into which the point of compliance is allowed to temporarily extend and any county or municipality having jurisdiction over the area. Prior to extending the point of compliance beyond the property boundary, notice shall be provided to the identified local governments and to the real property owners of any property into which the point of compliance is allowed to extend. Such notice shall be in the format specified in Rule 62-103.150(3), F.A.C. The location of the temporary point of compliance shall be based on the individual site characteristics listed in Subsection 14.01.

14.03 Where surface water is or may be exposed to groundwater contaminated with petroleum products' contaminants of concern (based on monitoring well data, groundwater flow rate and direction, or fate and transport modeling), the point of measuring compliance with the surface water standards shall be in the groundwater from the landward side immediately adjacent to the surface water body.

14.04 Unless the Natural Attenuation Monitoring Plan is included in a Site Assessment Report pursuant to Subsection 10.07(b)2, two copies of the Natural Attenuation Monitoring Plan shall be submitted by the responsible party to ERM for review when the criteria for Natural Attenuation have been met. Applicable portions of the Natural Attenuation Monitoring Plan shall be signed and sealed by an appropriate registered professional pursuant to Section 9.

14.05 Within 60 days of receipt of a Natural Attenuation Monitoring Plan or of additional information pursuant to Subsection 17.04, ERM shall:

- (a) Provide the responsible party with written approval of the Natural Attenuation Monitoring Plan or notification that the Natural Attenuation Monitoring Plan was approved for the purpose of this Ordinance; or
- (b) Notify the responsible party in writing, stating the reasons(s) why the Natural Attenuation Monitoring Plan does not contain information adequate to support the conclusion that the applicable Natural Attenuation criteria in Section 14, have been met.

14.06 The objective of the monitoring program shall be to meet the applicable No Further Action criteria in Section 13.

14.07 The monitoring program shall be performed as specified in the Natural Attenuation Monitoring Plan approval, as follows:

- (a) A minimum of two monitoring wells are required:

(1) At least one well shall be located at the downgradient edge of the plume; and

- (2) At least one well shall be located in the area(s) of maximum concentrations of petroleum products' contaminants of concern or directly adjacent to it if the area of highest groundwater contamination is inaccessible (for example, under a structure);
- (b) The monitoring period shall be a minimum of one year, unless two consecutive quarterly sampling events have indicated that applicable cleanup target levels have been met, in which case the requirements of paragraph (8) shall apply;
- (c) The designated monitoring wells shall be sampled for analyses of applicable petroleum products' contaminants of concern at a frequency specified in the Natural Attenuation Monitoring Plan approval;
- (d) Water-level measurements in all designated wells shall be made immediately prior to each sampling event;
- (e) The analytical results (laboratory report), chain of custody record form [Form 62-770.900(2)], table summarizing the analytical results, site map(s) illustrating the analytical results, and the water-level elevation information (summary table and flow map), shall be reported by the responsible party to ERM in a Natural Attenuation Monitoring Report within 60 days of sample collection;
- (f) If analyses of groundwater samples indicate that concentrations of applicable petroleum products' contaminants of concern exceed any action levels specified in the Natural Attenuation Monitoring Plan approval, the well or wells shall be resampled no later than 30 days after the initial positive result is known. If the results of the resampling confirm the exceedance(s), then a proposal shall be submitted by the responsible party to ERM to:
- (1) Perform a supplemental site assessment and submit a supplemental Site Assessment Report pursuant to Section 10;
 - (2) Perform additional monitoring; or
 - (3) Prepare and submit a Remedial Action Plan pursuant to Section 15; and
- (g) The annual milestone reductions of concentrations of petroleum products' contaminants of concern in monitoring wells, that shall be used to verify annual progress of site rehabilitation by natural attenuation, shall be achieved during the monitoring program. If the annual rate of expected cleanup progress is not achieved, then the Natural Attenuation Monitoring Report described in Subsection 14.07(e), shall include a proposal to:
- (1) Perform a supplemental site assessment and submit a supplemental Site Assessment Report pursuant to Section 10;
 - (2) Perform additional monitoring; or
 - (3) Prepare and submit a Remedial Action Plan pursuant to Section 15.
- 14.08 Following completion of natural attenuation monitoring, two copies of a Site Rehabilitation Completion Report shall be submitted by the responsible party to ERM for review when the criteria for No Further Action pursuant to Section 13, have been met. Applicable portions of the Site Rehabilitation Completion Report shall be signed and sealed by an appropriate registered professional pursuant to Section 9. The Site Rehabilitation Completion Report shall contain documentation adequate to support the opinion that site cleanup objectives have been achieved.
- 14.09 Within 60 days of receipt of the Site Rehabilitation Completion Report or of additional information pursuant to Subsection 17.04, ERM shall:

- 1 (a) Provide the responsible party with notification that the Site Rehabilitation
2 Completion Report was approved for the purpose of this Ordinance; or
3
4 (b) Notify the responsible party in writing, stating the reasons(s) why the Site
5 Rehabilitation Completion Report does not contain information adequate to
6 support the opinion that cleanup objectives have been achieved.
7

8 **Section 15 ACTIVE REMEDIATION**
9

10 15.01 Within 90 days of approval of a Site Assessment Report (unless a No Further Action
11 Proposal, a Natural Attenuation Monitoring Plan or a recommendation to prepare a risk
12 assessment was approved), two copies of a Remedial Action Plan shall be submitted by
13 the responsible party to ERM for review. Applicable portions of the Remedial Action
14 Plan shall be signed and sealed by an appropriate registered professional pursuant to
15 Section 9. The objective of the active remediation shall be to meet the applicable No
16 Further Action criteria in Section 13, or the Natural Attenuation criteria in Section 14.
17 The Remedial Action Plan must provide a design that addresses cleanup of all soil,
18 sediment, groundwater or surface water found to be contaminated. If one or more of the
19 contaminated media is not addressed, a recommendation and justification for that
20 decision must be included.
21

22 15.02 Performance of a pilot study for bioremediation, biosparging, bioventing or any
23 innovative technology shall be necessary prior to designing a treatment system that will
24 incorporate any of these technologies. A pilot study for soil vapor extraction or in situ
25 sparging is recommended if the suitability of the site conditions for soil vapor extraction
26 and in situ sparging is marginal or if the performance of a pilot study will result in a
27 more efficient design that would outweigh the additional cost of the pilot study. Prior to
28 performing a pilot study, a proposal shall be submitted by the responsible party to ERM
29 for review. If the size of the plume and knowledge of the site's stratigraphy do not
30 warrant performance of a pilot study for soil vapor extraction or in situ sparging, a
31 proposal explaining the rationale for the decision to not perform a pilot study shall be
32 submitted by the responsible party to ERM for review. The date for preparation and
33 submission of the Remedial Action Plan shall be extended until ERM has notified the
34 responsible party to proceed with the pilot study or to prepare the Remedial Action Plan
35 without performing the pilot study.
36

37 15.03 The Remedial Action Plan shall:
38

- 39 (a) Include all information required by Subsection 8.02;
40
41 (b) Summarize the Site Assessment Report conclusions and any additional data
42 obtained subsequent to Site Assessment Report approval;
43
44 (c) If groundwater contamination is present, include results from a round of
45 groundwater sampling and analyses from a number of monitoring wells adequate
46 to determine the highest concentrations of petroleum products' contaminants of
47 concern, to verify the horizontal and vertical extent of the plume and to provide
48 design data for the Remedial Action Plan. The sampling and analyses shall be
49 performed after approval of the Site Assessment Report, unless the most recent
50 groundwater analytical results submitted in the complete Site Assessment Report
51 are from a round of groundwater sampling and analyses performed less than 270
52 days before submittal of the Remedial Action Plan. If the results from the
53 confirmatory round of sampling contradict earlier results, then supplemental site
54 assessment shall be required;
55
56 (d) Include an estimate of the total mass and mass distribution of petroleum or
57 petroleum products in the subsurface as product entrapped above the water table,
58 free product, and product entrapped below the water table, based on the most
59 recent soil and groundwater analytical and field screening results. These estimates
60 shall be revised if additional data become available that contradict or enhance the
61 data used during the remedial design process;

- (e) Explain the rationale for the active remediation method selected, that shall include at a minimum:
- (1) Results from any pilot studies or bench tests; and
 - (2) Results of an evaluation of remedial alternatives, and a discussion of why other remedial alternatives considered were rejected, based on the following criteria:
 - a. Long-term and short-term human health and environmental impacts;
 - b. Implementability, that may include ease of construction, site access, and necessity for permits;
 - c. Operation and maintenance requirements;
 - d. Reliability;
 - e. Feasibility;
 - f. Estimated time required to achieve cleanup; and
 - g. Cost-effectiveness of installation, and operation and maintenance, when compared to other site remediation alternatives;
- (f) Include the design and construction details for the equipment to be used during active remediation;
- (g) Summarize the operational details of the equipment to be used during active remediation, including:
- (1) The disposition of any effluent;
 - (2) The expected concentrations of petroleum products' contaminants of concern in the effluent;
 - (3) The method of air emissions treatment and the expected quantities in pounds per day of any petroleum products' contaminants of concern discharged into air as a result of all on-site active remediation systems. A separate air permit will not be required if the mass of total petroleum hydrocarbons in the air emissions from all on-site remediation equipment system(s) does not exceed 13.7 pounds per day. For on-site remediation equipment system(s) located at a facility that is a Title V source pursuant to Chapter 62-213, F.A.C., a separate permit under that chapter may be required; and
 - (4) The schedule for maintenance and monitoring of the remediation system;
- (h) If groundwater contamination is present, include a list of petroleum products' contaminants of concern to be monitored in the recovery well(s) and in the effluent from the treatment system (based on the type of treatment employed and disposition of the effluent) or other chemical indicators to aid in the evaluation of the appropriateness of natural attenuation monitoring pursuant to Subsection 14.01(g)1, or an in situ method of site rehabilitation. Contaminants of concern that do not exceed the background concentrations or the applicable cleanup target levels in samples from the recovery wells or monitoring wells for three consecutive quarters may be excluded from subsequent monitoring events;
- (i) If groundwater contamination is present, include the designation of a number of monitoring wells and a proposal for their sampling frequency adequate to monitor the cleanup progress during active remediation, and the description of the methodology proposed to evaluate the effectiveness and efficiency of the

1 remediation system. The designated wells shall include at least one well located at
2 the downgradient edge of the plume and one well in the area(s) of maximum
3 concentrations of petroleum products' contaminants of concern or directly
4 adjacent to it if the area of highest groundwater contamination is inaccessible (for
5 example, under a structure). Consideration shall be given to the expected duration
6 of cleanup when specifying monitoring frequency. For cleanups expected to last
7 greater than two years, wells shall be sampled quarterly for the first year and
8 semiannually thereafter. For cleanups expected to last less than two years, wells
9 shall be sampled quarterly. A representative number of previously contaminated
10 monitoring wells shall be sampled once a year, and the samples analyzed for the
11 applicable petroleum products' contaminants of concern, in order to redefine the
12 plume and fully evaluate the effectiveness and efficiency of the remediation
13 system. The selection of the representative monitoring wells shall be included in
14 the Remedial Action Plan; and
15

- 16 (j) Provide the details of any proposed treatment or disposition of contaminated soil
17 or sediment. If contaminated soil exists at the site and active remediation does not
18 include treatment or removal of such soil, the basis for the decision to forego
19 treatment or removal shall be provided and the Remedial Action Plan shall include
20 a proposal to implement an institutional control, or both an institutional and an
21 engineering control, pursuant to Subsection 13.02.
22

23 15.04 The remedial action plan summary form [Form 62-770.900(4)], shall be completed and
24 submitted as part of the Remedial Action Plan. The information provided in the
25 remedial action plan summary form shall be resubmitted to be consistent with the final
26 approved Remedial Action Plan and any subsequent modifications to the approved
27 Remedial Action Plan.
28

29 15.05 Other requirements to be included in the Remedial Action Plan, if applicable, include
30 the following:
31

- 32 (a) Vacuum extraction systems shall be equipped with a means of air emissions
33 treatment for at least the first 30 days of system operation. Air emissions
34 treatment may be discontinued after the first 30 days of system operation if the
35 mass of total petroleum hydrocarbons in the emissions from all on-site
36 remediation equipment does not exceed 13.7 pounds per day;
37
- 38 (b) Bioventing systems shall be equipped with a means of air emissions treatment
39 unless the Remedial Action Plan design is based on respiration rates and optimum
40 air flow that result in soil remediation primarily by bioremediation with minimal
41 volatilization of hydrocarbons. This objective shall be confirmed by a pilot study
42 or by emissions sampling during startup;
43
- 44 (c) In situ air sparging systems shall be designed and operated in conjunction with air
45 emissions treatment system(s) unless the Remedial Action Plan design is based on
46 sparging rates and optimum air flow with minimal volatilization of hydrocarbons.
47 This objective shall be confirmed by emissions sampling during startup. If a
48 vacuum extraction system is used, the vacuum extraction system shall operate at
49 an air flow rate at least 50% greater than the sparging air flow rate, and the
50 vacuum extraction system shall be provided with air emissions control as
51 described in Subsection 15.05(a);
52
- 53 (d) Biosparging systems shall be equipped with a means of air emissions control
54 unless the Remedial Action Plan design is based on the optimum air sparging rates
55 that promote biological activity with minimal volatilization of hydrocarbons. This
56 objective shall be confirmed by a pilot study or by emissions sampling during
57 startup;
58

- (e) Multi-phase extraction systems shall be equipped with a means of air emissions treatment during system operation. Air emissions system operation may be discontinued if the mass of total petroleum hydrocarbons in the emissions from all on-site remediation equipment does not exceed 13.7 pounds per day;
- (f) A sampling schedule shall be specified for monitoring vacuum extraction systems, in situ sparging, bioremediation, or other in situ means of remediation of soil and groundwater; and
- (g) An identification shall be made of methods proposed to assess remediation effectiveness in terms of mass removal relative to the amount of mass estimated in accordance with Subsection 15.03(d).
- 15.06 The most cost-effective and appropriate strategy for some sites may be active remediation followed by the monitoring of natural attenuation. The active remediation may consist solely of soil remediation, short-term or intermittent groundwater remediation, or other remedial enhancements, or combinations of these. The discontinuation of active remediation may be appropriate at any time depending on the site-specific characteristics and conditions. The Remedial Action Plan shall include a discussion of when the active remediation will be discontinued. When the natural attenuation criteria in Section 14, have been met, natural attenuation monitoring shall be performed pursuant to Subsection 14.07
- 15.07 The Remedial Action Plan may propose the use of new and innovative technologies or strategies that meet the criteria in Section 15, and that are cost-effective in meeting the No Further Action criteria in Section 13, or the Natural Attenuation criteria in Section 14. These technologies or strategies may include low-cost enhancements to natural attenuation.
- 15.08 Within 60 days of receipt of a Remedial Action Plan or of additional information pursuant to Subsection 17.04, ERM shall:
- (a) Provide the responsible party with written notification that the Remedial Action Plan was approved for the purpose of this Ordinance; or
- (b) Notify the responsible party in writing, stating the reasons(s) why the Remedial Action Plan does not contain information adequate to support the conclusions that the active remediation will be cost-effective and will comply with all applicable requirements in Section 15.
- 15.09 Active remediation activities shall not be implemented until the Remedial Action Plan is approved. Separate permits such as underground injection of treated water, National Pollutant Discharge Elimination System or air emissions are required if not included in the Remedial Action Plan approval.
- 15.10 Within 120 days of approval of the Remedial Action Plan, unless a modification is obtained under the provisions of Subsection 17.05, the operation of the active remediation system shall be initiated. The following data shall be collected during active remediation, unless otherwise provided in the Remedial Action Plan:
- (a) Water-level data collected each time monitoring wells and recovery wells are sampled. If operational parameters remain unchanged, the responsible party may propose, pursuant to Subsection 15.12, that the requirement be modified or discontinued;
- (b) Total volume of free product recovered and the thickness and horizontal extent of free product during each month of the reporting period until free product is no longer detected in monitoring wells or recovery wells;
- (c) Total volume of groundwater recovered from each recovery well during each month of the operating period for the first year, and quarterly thereafter;

- (d) Concentrations of applicable petroleum products' contaminants of concern based on analyses performed on the effluent from the treatment system, daily for the first three days with a 24 hour turnaround on analytical results, monthly for the next two months, and quarterly thereafter;
- (e) Concentrations of applicable petroleum products' contaminants of concern based upon analyses performed on the untreated groundwater from the individual recovery well(s) as proposed in the approved Remedial Action Plan, daily for the first three days, monthly for the next two months, and quarterly thereafter;
- (f) Analytical data from all monitoring wells sampled during the remediation year to monitor rehabilitation progress during active remediation, including all information required by Subsection 8.02;
- (g) Operational parameters for in situ sparging system(s), including measurements of groundwater mounding, dissolved oxygen or other means that will verify radius of influence at representative monitoring locations, weekly for the first month, monthly for the next two months, and quarterly thereafter. If operational parameters remain unchanged, the monitoring may be modified or discontinued if a demonstration is provided to ERM;
- (h) Operational parameters for bioremediation system(s), including measurements of dissolved oxygen at representative monitoring locations, rates of nutrient addition, and any other indicators of biological activity as proposed in the approved Remedial Action Plan, weekly for the first month, monthly for the next two months, and quarterly thereafter. If operational parameters remain unchanged, the monitoring may be modified or discontinued if a demonstration is provided to ERM;
- (i) Concentrations of recovered vapors from a vacuum extraction system, and post-treatment air emissions if air emissions treatment is provided, weekly for the first month, monthly for the next two months, and quarterly thereafter (for activated carbon off-gas treatment, additional sampling events may be performed based on the estimated time of breakthrough), unless two consecutive monthly or quarterly sampling events do not show exceedances of applicable air quality standards, as follows:
- (1) Concentrations of recovered vapors from individual wells shall be determined using an organic vapor analyzer with a flame ionization detector, or other applicable field detection device, in order to optimize the air flow rate and hydrocarbon recovery;
 - (2) The influent and effluent samples shall be analyzed for volatile organic aromatic hydrocarbons using a gas chromatograph equipped with a photo ionization detector for the analysis of gas, or adsorption tube samples. The protocols shall follow the analytical protocols specified in 40 CFR Part 60, Appendix A, Method 18, Section 7;
 - (3) The samples shall be collected using protocols outlined in 40 CFR Part 60, Appendix A, Method 18, Section 7.1, Section 7.4 or Method 0030/5040 of the Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW 846, 3rd Edition;
 - (4) All tedlar™ bag samples shall be analyzed within 72 hours of collection;
 - (5) All mylar™ bag samples shall be analyzed within 24 hours of collection; and
 - (6) All adsorption tube samples shall be analyzed within 72 hours of collection;
- (j) Percentage of system operation time and treatment efficiency for all operating treatment systems; and

(k) Results of analyses of soil samples taken to verify that the applicable No Further Action criteria in Section 13, or the applicable Natural Attenuation criteria in Section 14, have been met, based on one of the following:

- (1) When both field screening and laboratory results using the most sensitive method for the constituent(s) being analyzed for vacuum extraction systems indicate no detectable concentrations of contaminants of concern in the recovered vapors;
- (2) When the screening for bioventing parameters indicates that the bioventing is complete; or
- (3) If alternative soil cleanup target levels were established pursuant to Chapter 62-770.650, F.A.C., when system performance or monitoring using the applicable analytical methods for the appropriate constituents indicate that the alternative soil cleanup target levels have been achieved.

15.11 Within 120 days of initiating operation of the active remediation system(s), engineering drawings ("as-built" drawings) shall be submitted by the responsible party to ERM. The engineering drawings shall include all construction and equipment design specifications of the installed active remediation system(s) and any operational parameters different from those in the approved Remedial Action Plan. A summary of the system(s) startup activities shall be attached to the engineering drawings.

15.12 During implementation of the Remedial Action Plan, status reports of remedial action shall be submitted by the responsible party to ERM, annually unless a greater frequency is specified in the approved Remedial Action Plan. The status reports shall be submitted within 60 days after the anniversary date of initiating operation of the active remediation system and shall contain the following information, as applicable:

- (a) A summary of the data requested in Subsection 15.10(a)-(k);
- (b) Concentrations of petroleum products' contaminants of concern as specified in Subsection 15.16, if applicable;
- (c) A summary of the estimated mass of petroleum hydrocarbons recovered in all phases, including free product, dissolved and vapors, by all on-site remediation equipment, and a comparison to the original estimate of mass of petroleum products' contaminants of concern on-site;
- (d) Conclusions as to the effectiveness of the active remediation for the specified period covered in the status report;
- (e) Recommendations to continue the operation of the treatment system(s) or to modify the site rehabilitation; and
- (f) The annual status report information, summarized on Form 62-770.900(5).

15.13 If effluent concentrations or air emissions exceed those in the approved Remedial Action Plan, or excessive plume migration occurs during remediation system startup or during operation of the treatment system, corrective actions shall be taken and ERM shall be notified by the responsible party within seven days. If the condition may represent a threat to human health, public safety or the environment, ERM shall be notified within 24 hours. Details of all such incidents shall be included in the annual status report described in Subsection 15.12

15.14 During implementation of the Remedial Action Plan, the responsible party may propose:

- (a) Supplemental assessment to determine alternative cleanup target levels pursuant to Chapter 62-770.650, F.A.C. During the supplemental assessment, active remediation shall continue;

(b) Modifications to existing treatment or recovery system(s) pursuant to Subsection 15.12; or

(c) Alternative technologies pursuant to Section 15.

15.15 Active remediation shall be deemed complete when the No Further Action criteria in Section 13, or the Natural Attenuation criteria in Subsection 14.01, have been met.

15.16 If the site does not meet the No Further Action criteria in Section 13, or the Natural Attenuation criteria in Section 14, discontinuation of active groundwater remediation shall be based on the following demonstration and analyses:

(a) Contaminated soil has been properly removed and disposed, or treated in situ, so that the applicable soil cleanup target levels are met or addressed by the enactment and implementation of institutional controls or both institutional and engineering controls.

(b) After a minimum of one year of groundwater treatment, concentrations of petroleum products' contaminants of concern in designated monitoring wells and recovery wells have leveled off. This demonstration must be based on subsequent monthly sampling results obtained for a minimum of 180 days, unless an alternative frequency has been approved. "Leveling off" shall mean that the graph of Total Volatile Organic Aromatics versus time generally fits a curve defined by the equation $C = C_f + C_o e^{-kt}$, that the lower limb of the curve is substantially linear, and that the slope of the final portion of the curve approaches zero. If the petroleum contamination does not contain a representative amount of Total Volatile Organic Aromatics, then an alternative petroleum products' contaminant of concern shall be designated for application to the curve. Applicable statistical methods shall be applied to demonstrate this conclusion.

(1) In the equation above, symbols are defined as follows:

- a. C: concentration of the applicable petroleum products' contaminant of concern at time t;
- b. C_f : coefficient representing final concentration that the curve approaches asymptotically;
- c. C_o : coefficient representing concentration difference between the final concentration and the concentration at time zero;
- d. E: 2.718, the base of natural logarithms;
- e. K: coefficient representing the exponential factor that indicates how fast the concentration approaches C_f ;
- f. T: time in days from some fixed starting point.

(2) The one year minimum treatment period may be shortened if, based on the criteria in Section 376.3071, F.S., it is demonstrated to ERM that a shorter time period is appropriate.

(c) An analysis or demonstration has been made of:

- (1) The technical feasibility of other proven groundwater or soil treatment techniques to further reduce the concentrations of applicable petroleum products' contaminants of concern at the site;
- (2) The costs and time frames involved to further reduce the concentrations of applicable petroleum products' contaminants of concern employing the alternative method(s) proposed;

- (3) The effects on the designated or potential use of the water resource if petroleum products' contaminants of concern remain at existing concentrations;
- (4) The effect on, and any protection that may be required of, surface water resources;
- (5) The effect on human health, public safety and the environment if petroleum products' contaminants of concern remain at existing concentrations;
- (6) The extent and potential for further migration of contaminated groundwater above background concentrations or applicable cleanup target levels; and
- (7) Institutional controls or both institutional and engineering controls that may be necessary to ensure protection of the public and the environment from future use of contaminated groundwater.
- (d) Post active remediation monitoring must validate the assumptions justifying the leveling off determination. If the justification for site rehabilitation is not validated during post active remediation monitoring, then the additional assessment or remediation described in Section 15, may be required.

15.17 The results of the demonstration and analyses described in Subsections 15.16(a), (b) and (c), shall be compiled in a report and submitted by the responsible party to ERM for review. ERM shall determine, using the criteria specified in Subsection 15.16(c), whether modifications to the Remedial Action Plan are required pursuant to paragraph (14) to effect further treatment; however, if alternative methods are not required, active remediation shall be deemed complete.

15.18 A Post Active Remediation Monitoring Plan shall be submitted by the responsible party to ERM pursuant to the Post Active Remediation Monitoring described in Section 16, when the No Further Action criteria in Section 13, or the leveling off criteria in Subsection 15.16, have been met.

Section 16 POST ACTIVE REMEDIATION MONITORING

16.01 Groundwater monitoring shall be performed following the completion of active groundwater remediation or soil remediation as described in Section 15. When active groundwater remediation has met the No Further Action criteria in Section 13, or the leveling off criteria in Subsection 15.16, a Post Active Remediation Monitoring Plan using the provisions of Subsection 16.04, and including analytical results demonstrating this conclusion, shall be submitted by the responsible party to ERM for review.

16.02 Applicable portions of the Post Active Remediation Monitoring Plan shall be signed and sealed by an appropriate registered professional pursuant to Section 9.

16.03 Within 60 days of receipt of a Post Active Remediation Monitoring Plan or of additional information pursuant to Subsection 17.04, ERM shall:

- (a) Provide the responsible party with written notification that the Post Active Remediation Monitoring Plan was approved for the purpose of this Ordinance; or
- (b) Notify the responsible party in writing, stating the reasons(s) why the Post Active Remediation Monitoring Plan does not contain information adequate to support the conclusion, pursuant to Section 15, that the applicable cleanup target levels shall be achieved at the end of the monitoring period.

16.04 The monitoring program shall be performed as specified in the Post Active Remediation Monitoring Plan approval, as follows:

- (a) A minimum of two monitoring wells are required:

- (1) At least one well shall be located at the downgradient edge of the plume; and
- (2) At least one well shall be located in the area(s) of maximum concentrations of petroleum products' contaminants of concern or directly adjacent to it if the area of highest groundwater contamination is inaccessible (for example, under a structure);
- (b) The monitoring period shall be a minimum of one year. However, if contamination was only present in the unsaturated zone during the site assessment and active remediation tasks, only one round of groundwater sampling is required;
- (c) The designated monitoring wells shall be sampled quarterly for analyses of applicable petroleum products' contaminants of concern that were present prior to the initiation of active remediation;
- (d) The analytical results (laboratory report), chain of custody record form [Form 62-770.900(2)], table summarizing the analytical results and site map(s) illustrating the analytical results shall be reported by the responsible party to ERM in a Post Active Remediation Monitoring Report within 60 days of sample collection; and
- (e) If analyses of groundwater samples indicate that concentrations of applicable petroleum products' contaminants of concern exceed any action levels specified in the Post Active Remediation Monitoring Plan approval, the well or wells shall be resampled no later than 30 days after the initial positive result is known. If the results of the resampling confirm the exceedance(s), then a proposal shall be submitted by the responsible party to ERM to:
- (1) Perform a supplemental site assessment and submit a supplemental Site Assessment Report pursuant to Section 10;
- (2) Perform additional monitoring; or
- (3) Implement additional active remediation pursuant to Section 15.
- 16.05 The remediation equipment shall be maintained in an inactive but operational status during the duration of post active remediation monitoring.
- 16.06 Following completion of monitoring pursuant to Section 16, two copies of a Site Rehabilitation Completion Report shall be submitted by the responsible party to ERM for review when the criteria for No Further Action pursuant to Section 13, have been met. Applicable portions of the Site Rehabilitation Completion Report shall be signed and sealed by an appropriate registered professional pursuant to Section 9. The Site Rehabilitation Completion Report shall contain documentation adequate to support the opinion that site cleanup objectives have been achieved.
- 16.07 Within 60 days of receipt of a Site Rehabilitation Completion Report or of additional information pursuant to Subsection 17.04, ERM shall:
- (a) Provide the responsible party with notification that the Site Rehabilitation Completion Order approving the Site Rehabilitation Completion Report was approved for the purpose of this Ordinance; or
- (b) Notify the responsible party in writing, stating the reasons(s) why the Site Rehabilitation Completion Report does not contain information adequate to support the opinion that the cleanup objectives have been achieved. Site rehabilitation activities shall not be deemed complete until such time as a Site Rehabilitation Completion Report is approved.

1 **Section 17 TIME SCHEDULES**

- 2
- 3 17.01 For site rehabilitation being performed at petroleum contamination sites eligible for
- 4 state funded assistance under the Inland Protection Trust Fund, the time frames
- 5 specified in this Ordinance do not apply.
- 6
- 7 17.02 If site rehabilitation is being performed by ERM through the Petroleum Cleanup
- 8 Preapproval Program or otherwise using funds provided by the Inland Protection Trust
- 9 Fund, the time frames specified in the contract between the Department and ERM shall
- 10 take precedence over the time frames set forth in this Ordinance.
- 11
- 12 17.03 If the responsible party has entered into a Consent Order with the Department for site
- 13 rehabilitation, the time frames and any alternative cleanup target levels set forth in the
- 14 Consent Order shall take precedence over the time frames and cleanup target levels set
- 15 forth in this Ordinance.
- 16
- 17 17.04 Within 60 days of receipt of a written notification from ERM that a plan or report does
- 18 not contain adequate information or that the information provided is not supported by
- 19 the applicable criteria, the requested information shall be submitted by the responsible
- 20 party to ERM.
- 21
- 22 17.05 A modification of the time frame may be obtained by the responsible party for any
- 23 action set forth in this Ordinance for good cause shown by requesting in writing that
- 24 ERM make such a modification. The request shall specify which time frame(s) is to be
- 25 modified, the amount of additional time required, and provide documentation
- 26 supporting the request. The request shall be received by ERM at least 20 days prior to
- 27 the time the action is to be initiated. If emergency situations at a site do not allow for a
- 28 full 20 days notice, the request shall detail such emergency situation. Within 20 days of
- 29 receipt of a request for modification, ERM shall notify the responsible party if
- 30 additional information regarding the request is needed. ERM shall notify the
- 31 responsible party in writing within 20 days of receipt of the request or of the additional
- 32 information as to whether modification of the time frame(s) will be allowed. For
- 33 purposes of this paragraph, good cause shall mean unanticipated events outside the
- 34 control of the responsible party.
- 35
- 36 17.06 The failure of ERM to meet any time frame herein shall entitle the responsible party to
- 37 compel compliance through the provisions of Section 403.412, F.S., or through such
- 38 remedies as may be available and appropriate in circuit court. In no circumstances shall
- 39 ERM's failure to meet any time frame herein be construed as approval of any plan or
- 40 action by ERM.
- 41

42 **Section 18 NOTICES**

43

44 When requested in writing by ERM, written notification shall be provided by the responsible

45 party to ERM at least three days prior to performing field activities such as installing

46 monitoring or recovery well(s), performing sampling, installing remediation equipment, or

47 performing soil source removal activities, except as provided in Section 7. Personnel from

48 ERM shall be allowed the opportunity to observe these field activities and to take split samples.

49 Raw data shall be exchanged as soon as data are available. If ERM chooses to be present when

50 the field activities are being performed, it shall be ERM's responsibility to confirm the field

51 activities are being performed in accordance with the written notification.

52

53 **Section 19 FORMS**

54

55 The forms used in the Petroleum Contamination Cleanup Program are incorporated by

56 reference in this Section. Each form is listed by rule number, which is also the form number,

57 and with the subject, title, and effective date. Copies of forms may be obtained by writing to

58 the State of Florida Department of Environmental Protection, Bureau of Petroleum Storage

59 Systems, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, FL 32399-2400.

60

- 1 19.01 Form 62-770.900(1), Free Product Removal Notification Form for Petroleum or
2 Petroleum Products (effective September 23, 1997).
3
4 19.02 Form 62-770.900(2), Chain of Custody Record (effective September 23, 1997).
5
6 19.03 Form 62-770.900(3), Petroleum or Petroleum Products Water Sampling Log (effective
7 September 23, 1997).
8
9 19.04 Form 62-770.900(4), Remedial Action Plan Summary (effective September 23, 1997).
10
11 19.05 Form 62-770.900(5), Active Remediation Annual Status Report Summary (effective
12 September 23, 1997).
13

14 **Section 20 FEES**

15
16 There are no fees required to be paid to ERM for the administration of this Ordinance.
17

18 **Section 21 VIOLATIONS; ENFORCEMENT; PENALTIES**

- 19
20 21.01 Failure to comply with the requirements of this Ordinance shall constitute a violation of
21 a County Ordinance, and may be punished as provided in Section 125.69, F.S.
22
23 21.02 Violations of the provisions of this Ordinance may also be punished, pursuant to Section
24 162.21, F.S., as a civil infraction with a maximum civil penalty not to exceed five
25 thousand dollars (\$5,000) per day, per violation.
26
27 21.03 Each day in violation of the provisions of this Ordinance is a separate violation.
28
29 21.04 In addition to the sanctions contained herein, the County may take any other appropriate
30 legal action, including but not limited to emergency injunctive action, to enforce the
31 provisions of this Ordinance.
32
33 21.05 If the owner of property which is subject to a violation of this Ordinance transfers the
34 ownership of such property between the time the notice of violation was served and the
35 time of the hearing and the alleged violator fails to make disclosure of said violation, the
36 transfer creates a rebuttable presumption of fraud.
37
38 21.06 Violations of this Ordinance may also be referred by ERM to the Groundwater and
39 Natural Resources Protection Board (GNRPB) for corrective actions and civil penalties.
40 Any person who is party to the proceeding before the GNRPB may appeal the Board's
41 Order to the Circuit Court of Palm Beach County in accordance with Florida Appellate
42 Rules. Funds collected pursuant to administrative penalties levied by the GNRPB for
43 violations of this Ordinance shall be deposited in the Palm Beach County Pollution
44 Recovery Trust Fund, or such other place as may be designated by Resolution of the
45 Board of County Commissioners.
46
47 21.07 In order to provide an expeditious settlement that would be beneficial to the
48 enforcement of this Ordinance and be in the best interest of the citizens of Palm Beach
49 County, the Director of ERM is authorized to enter into voluntary consent (settlement)
50 agreements with alleged violators. Any such agreement shall be a formal written
51 consent agreement between ERM on behalf of Palm Beach County, by and through its
52 Director, and any such alleged violators, and shall be approved as to form and legal
53 sufficiency by the County Attorney's Office. The agreement can be entered into at any
54 time prior to the hearing before the GNRPB.
55
56 (a) Conditions. Such consent agreements may be conditioned upon a promise by the
57 alleged violator to:
58
59 (1) Bring the parcel into compliance with this Ordinance and maintain it in that
60 condition, and
61

(2) Remit payment of a monetary settlement not to exceed the maximum amount allowed per violation, as set forth in this Ordinance, and

(3) Remit payment for costs and expenses of the County for investigation and enforcement, and.

(4) Any other remedies and corrective action deemed necessary and appropriate by the director of ERM to ensure compliance with this Ordinance.

(b) The consent agreement shall not serve as evidence of a violation of this Ordinance and shall expressly state that the alleged violator neither admits nor denies culpability for the alleged violations by entering into such agreement. In addition, prior into entering into any such consent agreement, each alleged violator shall be apprised of the right to have the matter heard by the GNRPB in accordance with the provisions of this Ordinance, and that execution of the agreement is not required.

(c) The consent agreement shall be valid and enforceable in a court of competent jurisdiction in Palm Beach County and shall abate any enforcement proceedings available to ERM for so long as the terms and conditions of such agreement are complied with. In the event the alleged violator fails to comply with the terms and conditions set forth in the executed agreement, the Director of ERM may either:

(1) Consider the consent agreement void and pursue any remedies available for enforcement of the applicable provisions of the Ordinance; or

(2) Initiate legal proceedings for specific performance of the consent agreement.

21.08 Funds collected pursuant to a consent agreement shall be deposited in the Palm Beach County Pollution Recovery Trust Fund.

Section 22 REPEAL OF LAWS IN CONFLICT

All local laws and ordinances of Palm Beach County in conflict with any provisions of this Ordinance are hereby repealed to the extent of such conflict.

Section 23 SEVERABILITY

If any section, paragraph, sentence, clause, phrase or word of this Ordinance is for any reason held by the Court to be unconstitutional, inoperative or void, such holding shall not affect the remainder of this Ordinance.

Section 24 INCLUSION IN THE CODE OF LAWS AND ORDINANCES

The provisions of the Ordinance shall become and be made part of the code of laws and ordinances of Palm Beach County, Florida. The Sections of this Ordinance may be renumbered or relettered to accomplish such, and the word "ordinance" may be changed to "section", "article", or any other appropriate word.

Section 25 EFFECTIVE DATE

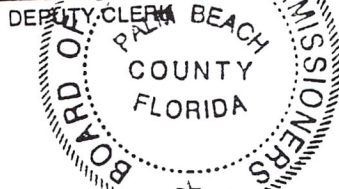
The provisions of this Ordinance shall become effective upon filing with the Department of State.

1 APPROVED AND ADOPTED by the Board of County Commissioners of Palm
2
3 Beach County, Florida, on the 22 day of October, 2002
4
5

6 PALM BEACH COUNTY, FLORIDA, BY ITS
7 BOARD OF COUNTY COMMISSIONERS

8 DOROTHY H. WILKEN, CLERK
9 Board of County Commissioners

10 By *Dorothy H. Wilken*



11 By *[Signature]*
12 Chairman

13
14
15 APPROVED AS TO FORM
16 AND LEGAL SUFFICIENCY

17
18 By *Nancy J. Dolan*
19 County Attorney

20
21
22 EFFECTIVE DATE: Filed with the Department of State on the 25 day of
23
24 October, 2002.

STATE OF FLORIDA, COUNTY OF PALM BEACH
I, DOROTHY H. WILKEN, ex-officio Clerk of the
Board of County Commissioners certify this to be a
true and correct copy of the original filed in my office
on October 22, 2002
DATED at West Palm Beach, FL on 11/1/02
DOROTHY H. WILKEN, Clerk
By: *Nancy J. Dolan* D.C.